A CASE STUDY OF MANAGEMENT WITHIN THE UNITED STATES COAST GUARD NON-APPROPRIATED FUND ACTIVITIES SYSTEM

Richard William Walton

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A CASE STUDY OF MANAGEMENT WITHIN THE UNITED STATES COAST GUARD NON-APPROPRIATED FUND ACTIVITIES SYSTEM

by

Richard William Walton

June 1974

Thesis Advisors: B. R. Webster
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A Case Study of Management Within the United States Coast Guard Non-Appropriated Fund Activities System

by

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Lieutenant, United States Coast Guard
B.S., United States Coast Guard Academy, 1965

Submitted in partial fulfillment of the
requirements for the degree of

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The purpose of this thesis is to show that centralized management concept increase the efficiency and the effectiveness of the Coast Guard Exchange System. Current exchange operations in areas such as administration, policy, and accounting in a model area were described. The Satellite Exchange System (a centralized management concept) was introduced and data collected from the model exchange area to the Satellite Exchange System applied, and areas of increased effectiveness and efficiency derived by the centralized management concept highlighted. The concept of the Satellite Exchange System was expand

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to all Coast Guard Exchanges in the continental United States and areas in which the satellite concepts could be applied were discussed. Explanations were given as to why concepts are non-applicable in other areas. The results of the study were summarized and the conclusion that the centralized management concept would increase the efficiency and effectiveness of the Coast Guard System reached.

ABSTRACT

The purpose of this thesis is to show that centralized management concepts increase the efficiency and the effectiveness of the Coast Guard Exchange System. Current exchange operations in areas such as administration, policy, and accounting in a model area were described. The Satellite Exchange System (a centralized management concept) was introduced and data collected from the model exchange area to the Satellite Exchange System applied, and areas of increased effectiveness and efficiency derived by the centralized management concept highlighted. The concept of the Satellite Exchange System was expanded to all Coast Guard Exchanges in the continental United States and areas in which the satellite concepts could be applied were discussed. Explanations were given as to why concepts are non-applicable in other areas. The results of the study were summarized and the conclusion that the centralized management concept would increase the efficiency and effectiveness of the Coast Guard System reached.

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I. INTRODUCTION

A. THE RESEARCH QUESTION

The purpose of this study was to determine whether the concept and practices of centralized management could be applied successfully to the operation of the exchange segment of the United States Coast Guard Non-Appropriated Activities (NAFA) System. To facilitate the study, a model was developed utilizing exchanges within a 300 mile radius of San Francisco, California. The use of a model exchange area placed limitations upon the study; these limitations are discussed throughout the study. The primary question studied was: Can centralized management be implemented to improve the efficiency of the exchange segment of the Coast Guard NAFA System and still meet the system's objectives?

Development of the paper was facilitated by investigation of the following subsidiary questions:

1. What is the United States Coast Guard NAFA System?
2. How does the exchange segment of the NAFA System currently operate?
3. What problem areas exist in the exchange segment of NAFA System operations?
4. Would the benefits of centralized management outweigh the disadvantages of centralized management of the NAFA system?

B. SCOPE OF THE STUDY

Originally it was intended that the entire Coast Guard NAFA System would be the subject of the study. As the amount of data collected increased, it became apparent that the study area was too broad. It

was therefore, decided that the study would be limited to one segment of the entire system; namely, the exchange segment, since it was the largest segment and encompassed all of the management problem areas of the system. The study was focused on the model exchange area and problems encountered in this localized environment.

Background for the study, a brief description of NAFA, a history of the exchange system, and the mission of the exchange system was included in Chapter II. Succeeding chapters were devoted to the model exchange area and current exchange operation, the Satellite Exchange program, and exchange operations outside the model area. The final chapter was concerned with the conclusions and recommendations derived from the data collected.

C. PURPOSE AND UTILITY OF THE STUDY

Sales of the exchange segment of the NAFA System have grown at the rate of 32.5 percent per year during the past two years, with predictions of a 30 percent growth rate in Fiscal Year 1974.[1] The system has grown from a small "mom and pop" store concept into a moderately large resale business; however, the management policy and concepts that were used to operate the "mom and pop" stores are generally still being applied. It is hoped that this study will demonstrate the benefits of centralized management concepts for the exchange segment of the United States Coast Guard NAFA System.

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[1]U.S. Coast Guard Resales Program Branch Unclassified Open Letter, Subject: About Coast Guard Exchanges, 1 September 1973.

D. RESEARCH METHODS UTILIZED AND METHODS OF ANALYSIS

Information for this study was gathered from interviews conducted with personnel in Coast Guard Headquarters, District Comptrollers, and field personnel associated with the operation of the Coast Guard NAFA System. In addition, a questionnaire (Appendix A) was developed and sent to all but eight exchanges in the continental United States, both afloat and shore. The questionnaire was administered through an interview to eight of eleven exchanges located within the model exchange area. Information received from these exchanges was aggregated to present a background for current exchange operations. Information received from the remaining exchanges was utilized to show that the operational problems found in the model exchange area were not unique to one particular area. Additional information obtained from the questionnaire was used in the paper as supportive material. The majority of the remaining information used in this study was obtained from official publications and public documents.

The analysis of the data gathered was generally deductive in nature and the results and conclusions were reached in this manner.

E. ORGANIZATION OF THE STUDY

The study begins with a brief discussion of NAFA Activities, a history of the Coast Guard Exchange System and the mission of the exchanges. Following this, a description of the model exchange area and the current decentralized method of exchange operations is presented. Centralized management, known as the Satellite Exchange System is introduced in Chapter IV. An analysis based on interviews, questionnaires, and other data collected was performed to determine

the benefits and disadvantages associated with centralized management in the model exchange area. An analysis of questionnaire responses from exchanges outside the model area was then performed to show that the centralized management concepts are applicable to all exchanges in the NAFA System. The study closes with conclusions and recommendations for improvements of the current system as well as proposals for future systems.

II. BACKGROUND

A. DEFINITION

The Coast Guard NAFA System is a retail sales system comprised of Coast Guard exchanges, ashore and afloat, commissaries, and non-appropriated fund messes ashore (clubs). The Coast Guard NAFA System operates under the concept of decentralization. "Administration of the system is integrated into the normal chain of command with authority delegated to the lowest practicable level."[2]

B. SELECTION OF EXCHANGE SEGMENT OF COAST GUARD NAFA SYSTEM FOR STUDY

The composition of the Coast Guard NAFA System in fiscal year 1973 is illustrated in Table I. For the purposes of this study, it has been assumed the basic problems in the area of retail selling within the Coast Guard NAFA System are similar to each other. Having made this assumption, the selection of the exchange segment for study naturally followed due to the dominance of both the total number of segments and total dollar sales.

C. HISTORY OF THE COAST GUARD EXCHANGE SYSTEM

On 20 January 1915, legislation was enacted that united the Revenue Cutter Service and Lifesaving Service into the agency that has become known as the United States Coast Guard.[3] The Coast Guard exchange system has evolved from a variety of canteen service operations

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[2]Data obtained from the historical files of the Coast Guard Resales Programs Branch, Washington, D. C.

[3]Kaplan, H.R., and Hunt, James F., This is the Coast Guard, p. 40 Cornell Maritime Press, 1972.

TABLE I

COMPOSITION OF COAST GUARD NAFA SYSTEM IN FISCAL YEAR 1973

Segment Type	Number of Units	FY1973 Sales	% of Total FY73 Sales
Exchange			
Ashore	78	32,262,405	67.4
Afloat	83	1,624,670	3.4
Total	161	33,887,075	70.8
Messes (Clubs			
Commissioned Officer (Open)	20	5,106,287	10.7
Commissioned Officer (Closed)	13	1,347,075	2.8
Chief Petty Officer (Open)	10	1,475,174	3.1
Senior Petty Officer (Open)	2	993,557	2.1
Enlisted (Open)	13	611,450	1.3
Total	58	9,553,543	20.0
Commissaries	3	4,393,137	9.2

initiated in the early days of the Revenue Cutter Service (around 1795). These canteen service operations were a result of dissatisfaction with the operation of "bumboat" privateers. "Bumboaters" were peddlers who operated out of small boats and sold toiletries, candy and a variety of other items to shipboard personnel. Knowing that the merchandise they sold was not available to the sailors through other sources aboard the ship, the "bumboaters" charged exorbitant prices for products that were frequently of inferior quality.

The undesirable "bumboat" operation was eliminated by the establishment of ships' stores which were in the form of canteen operations. While some of the earliest canteens were operated by unit personnel for private gain, the profit from the majority was accumulated in funds utilized for the recreation of "all hands" on an equitable basis. The ships' store system evolved into an operation in which regulations were issued by individual commanding officers and profits were expended for the morale of the crew. This type of operation was continued until the outbreak of World War II.[4]

At the outbreak of World War II, the Coast Guard became "the hard nucleus about which the Navy formed in time of war" and commenced operations under the Department of the Navy. The Coast Guard ships' stores' operations then fell under the auspices of the Naval Appropriations Act of March 3, 1902 which was subsequently re-enacted in the United States Code Annotated, Title 34, Navy, Article 553, and has

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[4]Data from the historical files of the Coast Guard Resales Programs Branch, Washington, D. C.

since been codified in Title 10 of the United States Code.[5] Section 7604 of this Code provided that "a profit of not more than 15 percent may be made on sales from ships' stores."[6] These regulations further prescribed that the profit would be used equitably for the welfare of officers and enlisted members of the United States Navy serving aboard ships and a naval activities outside of the United States. At other naval activities, the profits would be used for the amusement, comfort, and contentment of enlisted members only.[7]

During the years preceding 1942, each ship was permitted to retain the total ship's store profits for its exclusive use. In the early part of WW II, it was recognized that some type of central fund was needed to pay the outstanding debts owed by ships that were lost due to war operations. The Navy directive that officially created such a fund was ALNAV 133-42, issued August 1942.[8] This directive named the Bureau of Naval Personnel as the cognizant bureau for disposing of outstanding accounts and residual funds of vessels lost at sea and "such other matters as were appropriate." In order to establish and maintain such a fund, the Chief of Naval Personnel initiated a financial assessment program. Each ship which operated a ship's store was required to transmit one percent of the ship's store gross sales

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[5]Data obtained from historical files of the Navy Ship's Store Office Representative, Washington, D.C.

[6]United States Code Annotated, Title 10, Public Law 1041, H.R. 7049, 84th Congress, Approved 10 August 1956.

[7]Ibid.

[8]Data obtained from historical files of the Navy Ship's Store Office Representative, Washington, D. C.

to the Bureau of Naval Personnel for maintenance of the central fund.[9]

At the end of World War II, the Coast Guard returned to the Department of the Treasury and assumed its separate identity. The operation of Coast Guard ship's stores reverted to the method established prior to WW II. The impact of contraction resulting from the change from a wartime to a peacetime environment stabilized by 1948. Even after the contraction from wartime operations, the Coast Guard found itself much larger in human resources, material resources, and mission areas than it was before the war.[10] Exchange sales increased significantly over pre-World War II operations, with gross sales amounting to approximately $500,000 in 1947. In 1948, the Commandant of the Coast Guard issued regulations governing the operation of exchanges -- that tended to follow the basic guidelines -- established by the Navy during WW II.[11] The basic difference between the Navy and Coast Guard operation of exchanges was the choice of system management. The Navy established a central management activity, known as the Navy Ship's Store Office, while the Coast Guard decentralized management to the lowest possible levels. The system sales volume has continually expanded since 1948. Fiscal year 1973 worldwide Coast Guard exchange

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[9] Ibid.

[10] Kaplan and Hunt, op. cit., p. 72.

[11] Data obtained from the historical files of the Coast Guard Resales Programs Branch, Washington, D. C.

sales totaled 34 million dollars with projections of $40 million of sales in fiscal year 1974.[12]

D. RESPONSIBILITIES

1. The Comptroller of the Coast Guard

The office of the Comptroller of the Coast Guard is charged with the responsibility of the overall administration of the Coast Guard Exchanges. Specifically, the Property and Resale Division of the Comptroller's Office is charged with "the authority and supervision over all Coast Guard exchanges."[13]

2. District Commander

The district commander is accountable for the administration of Coast Guard exchanges under his jurisdiction. District commanders are required to "exercise control over the establishment, operation, and disestablishment of the exchanges under their cognizance."[14] In addition, the district commanders are required to "review exchange reports of units under their cognizance and institute such additional procedures and actions, appropriate or necessary, to insure proper operation and accounting."[15]

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[12]U.S. Coast Guard Resales Program Branch Unclassified Open Letter, Subj: About Coast Guard Exchanges, 1 September 1973.

[13]Department of Transportation, United States Coast Guard, Manual for Non-Appropriated Fund Activities, Washington, D. C. Government Printing Office, 1973, Article A02001.

[14]Manual for Non-Appropriated Fund Activities, Article A02002.

[15]Ibid.

3. Commanding Officer

There are two separate classes of commands:

a. headquarter's units, and

b. district units.

The difference between the two stems from the fact that commanding officers of headquarter's units report only to an appropriate office in Coast Guard Headquarters, while commanding officers of district units report to the district commander. Since the exchange system is integrated into the normal chain of command, commanding officers of headquarters' units are not subject to exchange regulations promulgated by the district commander of the area in which they are physically located. In essence, this means that the functions of the district commander are performed by Coast Guard Headquarters (Office of the Comptroller) for these units.

Despite differences in the class of command, the responsibilities of the commanding officer remain the same. "The commanding officer has jurisdiction over, and is responsible for the operation of the exchanges at his unit in compliance with pertinent directives. It is the responsibility of the commanding officer to ensure that the exchange is maintained in a solvent condition and is operated in a sound financial manner. The commanding officer has the authority to prescribe additional rules to ensure that the exchange is maintained in a solvent condition and operated in a sound financial manner."[16]

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[16] Manual for Non-Appropriated Fund Activities, Article A02003

4. Chief, Non-Appropriated Funds Activities Division

The NAFA division concept is approximately two years old. The division is an organizational entity that has been incorporated at the unit level, generally at those units that have total non-appropriated fund sales of greater than $600 thousand. The chief of the division is responsible to the commanding officer for ensuring that the unit NAFA system is maintained in a solvent condition and operated in a sound financial manner.

5. Exchange Officer

The unit exchange officer is "where the buck stops" in the chain of organizational responsibilities. The exchange officer is "responsible for the proper operation of the unit exchange and is accountable to the Chief of the NAFA division if there is one, or directly to the commanding officer."[17]

E. MISSION

The primary purpose for the establishment of the ship's store (the forerunner of the exchange system) was to provide a convenient and reliable source from which authorized patrons could purchase goods for their comfort and enjoyment at the lowest possible price. Although some of the early stores were operated for the profit of the ship's store manager, the system gradually evolved to where any profits generated by the unit were turned in to the commanding officer. The commanding officer then used the profits for the morale and recreation of the crew. When the Commandant of the Coast Guard

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[17] Manual for Non-Appropriated Fund Activities, Article A02004.

issued regulations concerning exchanges in 1948, a proviso requiring the sharing of profits with district offices and headquarters was included. Monies sent to headquarters were utilized as a reserve to establish a commercial self-insurance program as well as for morale purposes throughout the entire Coast Guard. Monies sent to the district offices were spent for morale purposes at units within the district. The exchange system today is a composite of these past ideas and practices. The mission of today's exchange system reflects this and has been stated as:

> "The primary mission of Coast Guard exchanges is to provide a convenient and reliable source from which authorized patrons may obtain, at the lowest practical cost, articles and services required for their well-being and contentment; to provide through profits, a source of funds to be used for the morale and recreation of Coast Guard personnel; and to further promote the morale of the command in which it is established through the operation of a well managed, attractive, and serviceable store."[18]

Although the primary mission of the exchange system has remained basically unchanged since its conception, the method used to accomplish the mission has differred with the changing environment. A question that will be attempted to be answered in the coming chapters is: "are changes needed within the exchange system to efficiently meet mission objectives?"

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[18] Manual for Non-Appropriated Fund Activities, Article A01001

III. EXCHANGE OPERATION IN MODEL EXCHANGE AREA (DECENTRALIZATION)

The decentralized operation of the Coast Guard exchange system was investigated utilizing exchanges within a three hundred mile radius of San Francisco, California as a model. Decentralization, as defined in this study, refers to a management arrangement in which a great deal of authority is delegated to low echelons in the management hierarchy.[19] Under the present administrative structure and policy guidelines of the Coast Guard exchange system, decentralization means that each exchange manager is responsible for marketing, purchasing, inventory control, and the myriad of other management functions in a resale business operation.[20] The focus of this chapter will be on who administers the exchange system and how policy constraints or the lack of policy affects the operation of the system.

A. MODEL EXCHANGE AREA

All exchanges that were physically located in this geographical area were a part of the model being reported. The distribution of exchanges within the model area is illustrated in Table II.

The model exchange area incorporates the geographical area that the United States Coast Guard has designated as the Twelfth Coast Guard District. The exchanges in this area were selected for detailed study as they were readily accessible, for both personnel interviews

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[19] Smith, G. A., Jr., Managing Geographically Decentralized Companies, p. 13 Riverside Press, 1958.

[20] Future of Non-Appropriated Fund Activity, Management in the Coast Guard, Topic for discussion during Controller Session at 1973 District Commanders Conference, 10-14 Sept. 1973, Washington, D. C.

TABLE II

DISTRIBUTION OF EXCHANGES WITHIN THE MODEL EXCHANGE AREA

Number Assigned to Exchange Unit	Type of Exchange Unit	Fiscal 1973 Total Sales Volume (Nearest Thousand Dollars)	Percentage of Total Sales	Distance From San Francisco City Limits	Administrative[1] Classification	Reporting[2] Classification
6	Ashore	113	9.8	2	District	Small
5	Ashore	26	2.3	Within	District	Small
4	Afloat	4	0.3	Within	District	Small
2	Afloat	6	0.5	Within	District	Small
1	Afloat	6	0.5	Within	District	Small
7	Ashore	501	43.6	5	Headquarters	Large
9	Afloat	29	2.5	5	District	Small
10	Afloat	34	3.0	5	District	Small
8	Ashore	406	35.2	55	Headquarters	Large
3	Afloat	4	.3	265	District	Small
11	Ashore	23	2.0	277	District	Small
	TOTAL	1,152	100.0			

[1] Next higher authority in normal chain of command for reporting purposes.

[2] Small - annual sales < $150,000
Large - annual sales > $150,000

Source: United States Coast Guard Resales Program Branch Unclassified Open Letter; Subject: About Coast Guard Exchanges, 1 September 1973 and United States Coast Guard: Standard Distribution List, 1 July 1973.

and visual observation of exchange operations, and due to the fact that data on the district units was available at the District Office in San Francisco. Eight of the eleven exchanges in the model exchange area were visited, including the two largest exchanges, and data was obtained through interviews. Data for the remaining units was obtained through a mailed questionnaire. The questionnaire utilized is shown as Appendix A.

B. ADMINISTRATION

The current management system for Coast Guard exchanges is a decentralized system. The administration of Coast Guard exchanges is integrated into the normal chain of command, with authority delegated to the lowest practicable level.[21]

Broad policy guidance is issued by the Comptroller of the Coast Guard through the Resales Programs Branch. Its functions, as set forth by the Manual for Non-Appropriated Funds Activities, are to provide authority and supervision over the Coast Guard Exchange System.[22]

The administrative functions concerning establishment, operation, and disestablishment of district exchanges are delegated to the district commander. In addition, the district commanders are required to review reports and institute any additional procedures or actions deemed necessary to ensure proper operation or accounting.[23] The

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[21] United States Coast Guard Resales Program Branch unclassified open letter; subj: About Coast Guard Exchanges, 1 September 1973.

[22] Manual for Non-Appropriated Fund Activities, Article A01002

[23] Manual for Non-Appropriated Fund Activities, Article A02002.

administrative functions required of the district commander are performed by personnel in the office of the district comptroller. The administrative functions normally performed by the district commander for district exchanges are performed by the Resales Programs Branch of Coast Guard Headquarters for exchanges located at headquarters units. The current Coast Guard Exchange organization is detailed in Figure 1.

The administration of the individual unit exchanges is the direct responsibility of the commanding officer. He is charged with the responsibility to ensure that the exchange is maintained in a solvent condition and operated in a sound financial manner. Each commanding officer has been directed to appoint a commissioned officer to act as Exchange Officer to assist him in the administration of the exchange.[24] At the larger exchanges, the position of Non-Appropriated Fund Branch Chief has been created to assist the commanding officer in the operation of all NAFA systems at his unit. The position of the NAFA Branch Chief is filled with a person who has had management training in order to provide management expertise and guidance to the resale system.

The duties of the exchange officer include purchasing, merchandising, record keeping, and reporting on the operation of the exchange activities. The number of assistants assigned and other administrative personnel employed varies at different units in proportion to

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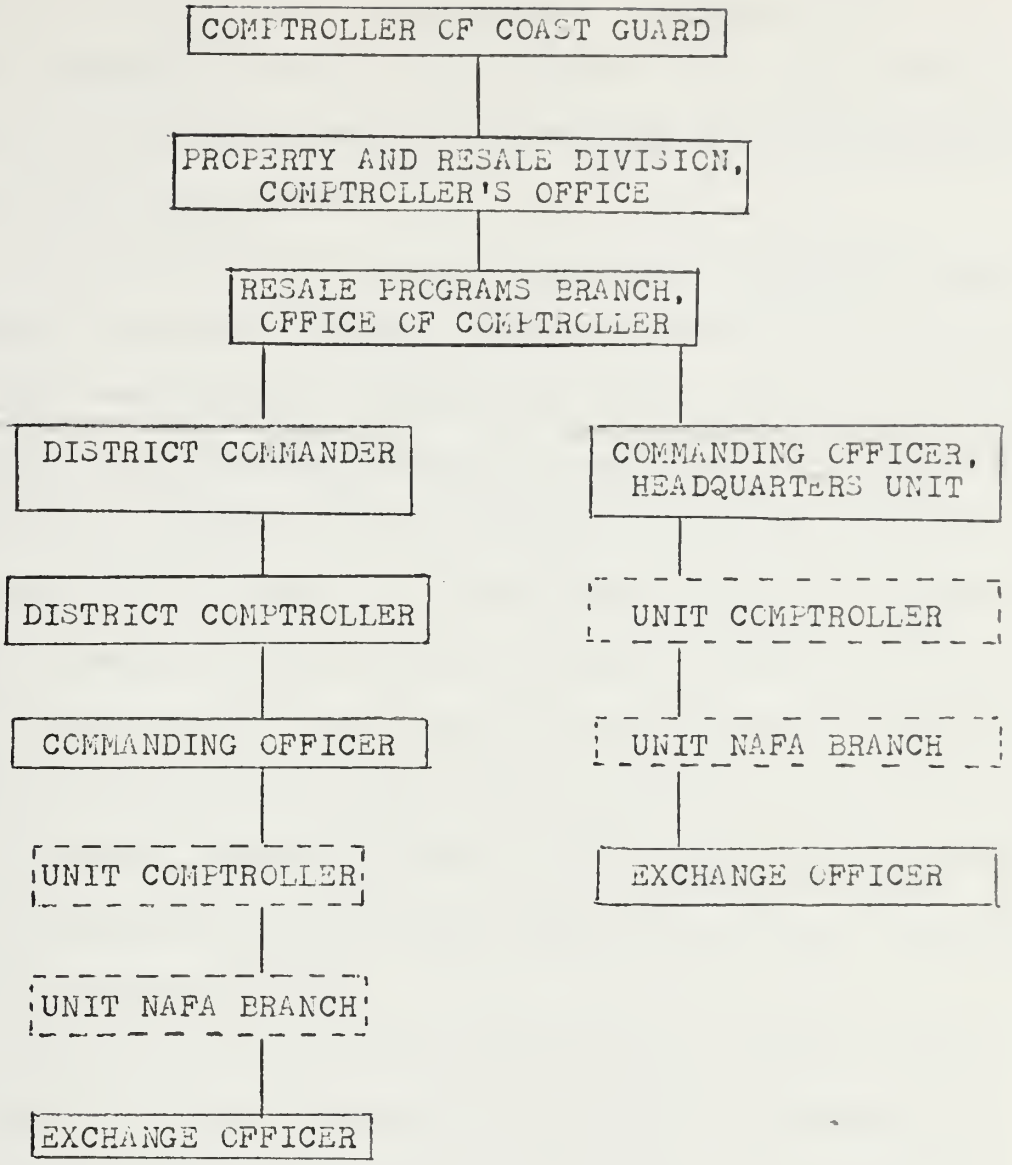
[24]Department of Transportation, United States Coast Guard Regulations, Washington, D. C., Government Printing Office, 1955, Article 7-4.



NOTE: Depending upon the size of the unit, the unit comptroller and unit NAFA Branch may or may not be including in the Organizational structure.

FIGURE 1 -- Organizational Structure, Coast Guard Exchange System.

the total sales volume of the exchange. The exchange officer is a vital link in the exchange system management chain. His interest and ability in the administration of the exchange are major influences on the success of the system.

The Coast Guard does not have a separately identifiable group of officers specialized in exchange administration such as those found in other Armed Services. Consequently, the assignment of an officer to administer the exchange operation is not always made on the basis of the best qualified person. Sometimes an officer is selected because he is "available." At some stations, especially those with small exchanges, the most junior, or the most inexperienced officer is assigned because (1) more senior officers are required for operational billets and (2) exchange administration has come to be thought of as a fertile management training area for junior officers. The normal rotation of officers creates additional problems in the assignment of exchange officers.

Recognizing these possible problem areas, commanding officers of units with larger exchanges are turning to civilian leadership within their exchange organization. As regulations do not permit civilians to be appointed as exchange officers, civilians are assigned as exchange managers or to other responsible administrative positions, maintaining military leadership in the top position. The primary advantage in the assignment of a civilian in the exchange administrative hierarchy is continuity of operation.

The summary of exchange officer and administrative assignments contained in Tables III and IV, provides an insight to the exchange leadership in the model exchange area.

TABLE III

SUMMARY OF EXCHANGE OFFICER ASSIGNMENTS IN MODEL EXCHANGE AREA

Exchange Number	Rank	Years of Military Service	Length of Time in Present Assignment	Job Classification	Previous experience in exchange operation and/or previous experience or education in area of finance
1	Ensign	1 year	7 months	collateral	none
2	Chief Warrant Officer-2	17 years	8 months	collateral	none
3	Ensign	7 months	7 months	collateral	none
4	Chief Warrant Officer-2	14 years	1 year	collateral	none
5	Lieutenant Junior Grade	3 years	1 month	collateral	none
6	Lieutenant	16 years	1 month	collateral	Exchange Officer at another unit for 1 year.
7	Lieutenant Junior Grade	3 years	3 years	primary	College degree in economics.
8	Lieutenant Junior Grade	9 years	8 months	primary	Six years experience in Coast Guard Supply Operations as enlisted rating
9	Ensign	1 year	6 months	collateral	none
10	Ensign	1 year	1 year	collateral	none
11	Chief Warrant Officer-2	18 years	1.5 years	collateral	none

TABLE IV

SUMMARY OF EXCHANGE ADMINISTRATIVE ASSISTANTS[1] IN THE MODEL EXCHANGE AREA

Exchange Number	Number of Assistants	Position	Experience	Classification
1	0			
2	0			
3	0			
4	0			
5	0			
6	2	Asst. Exchange Officer	None	Military - LTJG
		Asst. Exchange Officer	17 years in Coast Guard Supply System	Military - CWO-2
7	2	Bookkeeper	14 years, Bookkeeping	Civilian
		Store Manager	20 years in Coast Guard Supply System; 2 years retail	Civilian
8	2	Bookkeeper	10 years bookkeeping	Civilian
		Store Manager	3 years retail	Civilian
9	0			
10	0			
11	0			

[1]Administrative Assistants - store managers, bookkeepers, merchandise managers, purchase managers and Assistant Exchange Officers.

The cost of administration within the exchange system is very difficult to quantify as there are many definitions of the term administration. In addition, items that are treated as costs by one unit are not given the same treatment at another unit. A figure for monthly administrative costs for the model exchange area was computed in order to provide a basis of discussion and is shown in Table V. The costs were computed as follows:

1. Costs of Exchange Officers

a. Collateral Duty

The number of hours per month that the exchange officer estimated (questions 21-23 of questionnaire) that he spent working on all exchange matters was used to determine the number of hours worked. To calculate a cost per hour, pay tables, current as of 1 January 1974, were entered with the rank and years of service of the exchange officer to obtain a monthly pay rate. Due to the nature of operations at a military unit, there are no standard working hours applicable to all units. In order to obtain cost comparisons, standard working hours had to be devised. The monthly pay was then divided by 160 hours to get the cost per hour. An assumed work base of 40 hours per week and 4 weeks per month was used to obtain the 160 hour figure.

b. Primary Duty

The entire monthly gross pay rate of the exchange officer was used.

2. Costs of Administrative Assistants

a. Military

Same basis as collateral duty exchange officer.

TABLE V

COMPUTATION OF AVERAGE MONTHLY ADMINISTRATIVE COSTS OF THE MODEL EXCHANGE AREA

Exchange Number	Exchange Officers Hrs.	*	Cost/Hr.	Total Costs[1]	Commanding Officer Hrs.	*	Cost/Hr.	Total Costs[1]	Assistants Hrs.	*	Cost/Hr.	Total Costs[1]	Total Costs[1]
					Exchanges								
1	22	*	4.06	89	2	*	8.71	17					106
2	30	*	7.13	214	2	*	7.13	14					228
3	36	*	4.95	178	4	*	9.91	40					218
4	10	*	7.13	71	2	*	7.51	15					86
5	26	*	7.08	184	2	*	8.71	17					201
6	160	*	11.01	1762	1	*	12.62	13	160	*	7.13	1141	
									160	*	7.46	1194	4110
7	Full Time			1001	4	*	12.62	50				880	
												894	2825
8	Full Time			1213	4	*	12.62	50	160	*	3.46	554[2]	
												300[2]	2117
9	20	*	4.06	81	2	*	11.93	24					105
10	25	*	4.95	124	2	*	11.93	24					148
11	40	*	7.13	285	2	*	8.71	18					303
District Office													194
Grand Total													10641

[1] Costs shown to nearest dollar

[2] Bookkeeper keeps all NAFA books, salary prorated in proportion to time spent doing exchange books.

b. Civilian

Hourly rate personnel costs were calculated utilizing a 40 hour week, 4 week-month basis multiplied by a basic hourly rate. Fixed salary personnel were costed at gross salary per month. The costs of taxes and other employer's contributions to employee welfare were included in the calculations.

3. Costs of the Commanding Officer

The number of hours that the exchange officer estimated that he and other exchange personnel spent with the commanding officer (question 22 of questionnaire) was used to determine a basis of the hours per month the commanding officer spent on exchange matters. The hourly rate for commanding officers was calculated in the same manner as that for collateral duty exchange officers. The two figures pertaining to rate and time were multiplied to get a cost.

4. Cost of District Administration of Exchanges

An estimate of district personnel costs in the administration of exchange matters was obtained from the Comptroller's Office of the Twelfth Coast Guard District in San Francisco, California. The costs presented in Table V are approximate; however, they are explicit costs of the exchange system and can be easily identified. Costs of the exchange system that are not so easily identified are those associated with policy administration, interpretation, and implementation.

C. OPERATIONAL POLICIES

Policies are basic or settled courses of action formulated by management to guide the business toward the attainment of its objectives or missions. When policies are not developed, the

retailer may become so burdened with routine operating details that the overall management of the business is impaired.[25] The Coast Guard has formulated operating policies for the exchange system; however, the question is raised whether or not the policies are adequate to attain all of the system objectives. The development of an answer to this question and the impact of operational policies on the model exchange area are the focal points of this discussion.

All retailers do not find it necessary to formulate the same number of policies, but all do perform certain basic functions. Hence, there is a common need for individual policies which are consistent with one another and have the desired store character or personality in each of the following areas:

1. Personnel policies relating to:
    a. Selection and training of employees.
    b. Employee compensation.
    c. Hours and conditions of employment.
    d. Morale maintenance.
2. Merchandise policies relating to:
    a. The different types or classes to be carried in stock.
    b. The breadth of assortments within lines.
    c. Control of inventories
3. Pricing policies relating to:
    a. The general level of the stores prices.
    b. Price reductions.

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[25] Davidson, W. R. and Brown, P. L., Retailing Management, p. 4 Ronald Press Co., 1960.

c. Discounts and price concession to special groups of customers.

d. Price lines or price zones.

e. Price marking methods.

4. Buying policies relating to:

a. The selection of sources of supply.

b. Quantities to be purchased.

c. Speculative buying.

d. Buying technique.

5. Sales promotion policies relating to:

a. Emphasis to be placed on personal salesmanship.

b. Merchandise arrangement and display.

c. Window display.

d. Emphasis to be placed on special promotions.

e. Nature of appeals to be used in attracting customers.

f. Advertising media to be used.

6. Service policies relating to:

a. The extension of credit.

b. Delivering merchandise.

c. Handling telephone and mail orders.

d. Handling customer complaints.

e. Alterations.

f. Providing parking facilities for customers.[26]

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[26]Davidson, W. R. and Brown, P. L. op. cit., p. 5.

The policies formulated for Coast Guard exchange operation were compared with this list of common industry policy areas. This list was then used as the standard to measure Coast Guard policy.

The personnel policies of the Coast Guard exchange system are very definitive in the areas of employee selection and training, conditions of employment, and employee morale.[27] Specific guidelines pertaining to employment and employee utilization, employee relations, employee benefits, standard of conduct, and employee records are incorporated into the personnel policy so that a degree of standardization can be achieved throughout the system. Broad guidelines are provided for personnel training and development with specifics left to the individual exchanges.

Policies pertaining to employee compensation were left to the discretion of the various exchanges until 19 August 1972 when Public Law 92-392 (a law affecting wage policies of all government non-appropriated fund activities) was passed. This law amended Subchapter IV, Chapter 53, Title 5, United States Code, and required for the first time a statutory system for fixing and adjusting wages of the blue collar employees and specific categories of supervisory employees in non-appropriated fund activities. The employees affected by the law are those on an hourly wage rate. Responsibility for establishing the system was assigned to the U.S. Civil Service Commission.[28] The

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[27] Manual for Non-Appropriated Fund Activities, Section D.

[28] U.S. Department of Transportation, United States Coast Guard, Commandant Instruction 12250.2, subj: Civilian Personnel Management (Non-Appropriated Fund Employees), 5 October 1973.

purpose of the law is to standardize personnel wage practices within the NAFA system in accordance with applicable federal laws, Executive Orders, and regulations.[29] The law requires that a wage schedule with grades be established for employees and that each grade have five rates of pay as specified by the prevailing Civil Service Wage Schedule.

The necessary actions to place NAFA employees under the new pay schedules are being accomplished under a two-phase process. The first phase, which required the conversion to a five-step pay system was effective for the first pay period after 30 April 1973. The second phase calls for applying pay schedules developed from full scale NAFA wage surveys, conducted in accordance with Civil Service Commission instructions, to jobs classified under the job grading system of the Federal Wage System.[30] It is not known when the implementation of phase two will be accomplished. The total impact of this new wage policy upon the Coast Guard Exchange System will be uncertain until phase two is implemented; however, it is expected that labor costs will be increased. The immediate impact has been the establishment of a branch in the Resales Programs Office in Coast Guard Headquarters to centrally administer the program and the creation of reserve funds by several of the larger activities to hedge against a possible large cash drain when the law is fully implemented.

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[29] Ibid.

[30] United States Civil Service Commission, Federal Personnel Manual System Letter, FPM ltr. No. 532-57, Subj: Application of Step Rate Provisions of Public Law 92-392 To Agency Non-Appropriated Fund Non-Supervisory Regular Wage Schedules, 20 July 1973.

The model exchange area has 30 employees (both full time and part time) whose wages would be affected by the new wage policies. The October 1973 payroll for these employers totaled $5,900. Although wages paid in October 1973 by the small exchanges amounted to only $1,000, the small exchanges would be more affected by a wage increase than the large exchanges as they are operating very close to the break-even point. The profitability of the different exchanges will be discussed later in the chapter.

The personnel policies of the Coast Guard exchange system meet the standards of those commonly used by industry, with the exception of employee compensation standards. Generally they provide the necessary guidance to achieve standardization within the system. The enactment of Public Law 92-392 has brought the area of employee compensation into conformity with standards commonly used by industry. The enactment of this law is also expected to increase operating costs by establishing higher wage scales. Any increase in costs will have to be absorbed by the exchanges, passed on to the consumer, or a combination of the two.

Common industry standards relating to merchandising policies pertain to different types of classes to be carried in stock, breadth of assortment within lines, and control of inventories. Merchandising policy in the exchange system describes merchandise allowed to be offered for sale and states that a physical inventory will be taken quarterly and the "Gross Profit Method" utilized to determine interim inventories.[31]

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[31] Manual for Non-Appropriated Fund Activities, Article C01011.

Merchandising policies are established to provide guidance for merchandise management within the exchange system. Merchandise management or stock control refers to the maintenance of a stock of merchandise which is adjusted to the demands of customers and prospective customers. Some of the more important aspects of merchandise controls are summarized as follows:

1. to meet customer demands satisfactorily,
2. to improve profits,
3. to provide buying information,
4. to minimize investment in inventory,
5. to reduce the amount of slow selling merchandise carried,
6. to make selling easier through improved assortments and cleaner stocks, thus reducing selling expense, and
7. to develop an appreciation of the continuous fundamental relationship between stocks and sales and the importance of this relationship in the final determination of profits.[32]

Coast Guard merchandising policies do not provide guidance relative to any of the above. Each exchange must meet the needs of its customers and the goals of the command.

Answers from the model exchange area to questions number nine and ten of the questionnaire, illustrated in Table VI, provide an insight into actual merchandising policies. It is interesting to note that all of the small exchanges use experience to guide them in determining which product lines to carry. It is felt that this

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[32]Duncan, D.J. and Phillips, G.F., Retailing Principals and Methods, pp. 345-347, Richard D. Irwin, 1963.

TABLE VI

RESPONSES OF EXCHANGE IN THE MODEL EXCHANGE AREA TO QUESTIONS 9 AND 10 OF QUESTIONNAIRE

Exchange Number	Question 9 Briefly describe method(s) used to determine what different product lines and how much of each product line will be held as inventory.	Question 10 Do you use a formal rule or a "rule of thumb" to determine how depleted a product line inventory allowed to become before placing an order to replenish inventory? Briefly describe your method.
1	Experience. No more than can sell month to month.	Rule of thumb, observation.
2	What "sells." Look at inport and underway time.	Rule of thumb. Let product run out or get very low.
3	Experience. Know standards	Rule of thumb, observation.
4	Survey, own experience, what runs out.	Rule of thumb, observation.
5.	Commanding Officer, previous experience.	Rule of thumb. Maintain stock inventory so that stock on shelves is equal to inventory plus safety stock.
6	Eyeball, previous experience	Rule of thumb. Eyeball, salesmen.
7	Keep abreast of staple items, maintain 3 months supply. Look at number of personnel and type of customer.	Formal rule. Use cardex file for staples. Compute amount of money to spend for inventory, rely on sales, vendors, own judgement to maintain inventory of non-staple items.
8	Use Navy guidelines of "never out" items, vendors recommendations, and past experience.	Rule of thumb. On staples try to synchronize with "company sales" each 3 months.
9	Previous experience, survey crew.	Rule of thumb, stock up before patrol.
10	Previous experience, eyeball.	Rule of thumb, stock up before patrol.
11	Eyeball, previous experience.	Rule of thumb, Eyeball, salesmen.

indicates that the different products stocked and the number of brand names within the various product lines is being based upon a structure that was formulated when the exchange was founded. The product structure has probably been modified with the passing of time by exchange officers and crewmen. In contrast, the two large exchanges use a more definitive system to determine product lines and inventory quantities.

None of the exchange officers interviewed knew, without having to make the necessary calculations, "what percentage of total inventory each product line represented" or "what the composition of each product line was." A product line breakdown example is given in Table VII. This model department stock composition is provided by the Navy Ship's Store Office to be used by Navy Exchanges in reviewing possible areas of improvement in individual departmental category assortments so that corrective action, as necessary, may be taken in order to achieve maximum departmental sales through the maintenance of balanced assortments.[33]

A merchandising problem not encountered by the normal retail store, but one that must be resolved by Coast Guard exchanges afloat, is the problem of stocking enough merchandise in a limited space to last for the period of time the vessel is at sea. During the period a Coast Guard vessel remains at sea, merchandise stock cannot be replenished. This at-sea period varies from one to approximately forty days according to the class of vessel. If a stockout occurs

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[33]U.S. Department of the Navy, Navy Ship's Store Office Instruction 4265.11A, 10 November 1967. Subj: Retail Departments Stocking and Pricing Instructions, p. 1-1.

TABLE VII

DEPARTMENT B-2, HOUSEWARES AND APPLIANCES

Authorized Stock		Model Departmental Stock Composition	
Description	Markup	Item	Category
BATHROOM SUPPLIES	20%		3%
Fixtures		30%	
Hampers		20%	
Scales		50%	
		100	
BATTERIES, FLASHLIGHTS, LAMPS			6%
Batteries, dry cell	15%	65%	
Flashlights	15%	15%	
Lamps (all types	20%	20%	
		100	
CLEANING SUPPLIES AND EQUIPMENT			5%
Boards, ironing board	20%		
Brushes, Clothes	25%		
Buckets	25%		
Cloths, Polishing and Pressing	25%		
Covers, Appliance	25%		
Covers, ironing board	20%		
Gloves, household	25%		
Sweepers, carpet	25%		
CLOCKS			4%
Alarm	20%	70%	
Household	20%	30%	
		100	
CLOSET AND HOME ACCESSORIES	25%		4%
COOKING AND BAKING NEEDS	20%		6%
DINNERWARE, FLATWARE AND GLASSWARE, DRINKING	20%		8%
Dinnerware (all types)		20%	
Flatware		40%	
Glasses, drinking		40%	
		100	

Source: U.S. Department of the Navy, Navy Ship's Store Office Instruction 4265.11A, 10 November 1967. Subj: Retail Department Stocking and Pricing Instructions, p. 1-11.

for an item, the exchange officer has gainted experience which will be reflected in the composition of the merchandise inventory for the next at-sea period. The Coast Guard Non-Appropriated Fund Activities Manual does not acknowledge any difference between shipboard and shore based exchanges. The Navy, which also has exchanges aboard vessels, (ship's stores) has recognized the problems inherent in a shipboard retailing operation.

Policy guidelines that have resulted from research and operating experience, are published in the Naval Supply Systems Command Publication Number 487, Ship's Store Afloat. The policies and guidelines presented in this publication prevent the phenomenon of each exchange officer having to learn identical lessons from experience, something that often occurs in Coast Guard exchanges afloat.

The basis of the pricing policy of the Coast Guard exchange system has been stated as:

> "Merchandise and services available through an exchange shall be sold at the lowest practical prices with due regard for profit requirements."[34]

The pricing policy limits net profits from exceeding 15 percent of consolidated sales and servicew and prevents merchandise from being sold at less than cost. Special pricing policies are applicable for newly established exchanges.[35]

In the model exchange area, the two large exchanges use a markup of 20 percent over merchandise costs in pricing all merchandise for

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[34] Manual for Non-Appropriated Fund Activities, Article A03008.

[35] Ibid.

resale. The smaller exchanges also use a standard markup over merchandise cost in pricing all merchandise for resale. Markups used by the small exchanges are as follows:

Exchange Number	Markup Percentage
1	10 percent to nearest even penny.
2	10 percent.
3	20 percent or competitive with outside.
4	20 percent.
5	10 percent.
6	12 percent.
9	15 percent or competitive with outside.
10	15 percent.
11	10 percent.

The markup percentages in use were in use when the present exchange officers assumed their positions. Exchange officers at all exchanges stated that the markups were sufficient to meet the objectives of the command. There were no specified procedures noted at any of the exchanges for marking goods down.

Pricing is a complicated function of retail operations. Goods must be marked up in order to meet specific goals, yet must be marked down if they are slow sellers in order to reduce inventory. Pricing is both an art and a science. It is a science in that logic and analytical formulas can be applied to determine how much to charge for goods. It is an art in that the proper timing of price adjustments comes from experience, judgement, and experimentation.[36]

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[36]Duncan and Phillips, op. cit. pp. 442-445.

The fact that there are no Coast Guard exchange system pricing policies relating to pricing reductions, discounts and price concessions, price lines or price zones, and price marking means that the various individual exchanges are responsible for making their own pricing decisions in these areas. The importance of pricing cannot be overstated, yet in the model exchange area these decisions are left to mostly inexperienced exchange officers. Although the exchange officers stated that the markups were sufficient to meet the objectives of the command, there is doubt as to the effectiveness and sufficiency of the overall pricing policies presently employed.

The buying policy of the Coast Guard exchange system is stated as:

> "The exchange officer under the supervision of the Commanding Officer shall exercise great care and judgement in selecting merchandise for resale in order to insure that the exchange is operated in accordance with sound business practices, is maintained in a solvent condition, and to avoid quantities of unsaleable goods on hand."[37]

Buying techniques of the exchange system are stated as:

1. stay with the best sellers and "name" brands,
2. always take a second look at "specials," and
3. don't overbuy.[38]

Sources of supply can be found in bulletins called price agreement bulletins (PAB's). The PAB's list agreements that suppliers have have made with the government to sell certain products at specific

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[37] Manual for Non-Appropriated Funds Activities, Article A03006.

[38] Ibid., Article A03006.

prices. These bulletins can be obtained from the Resales Program Branch of Coast Guard Headquarters in Washington, D. C. by exchanges with gross/sales in excess of $300,000 per year.[39] Other exchanges may request PAB's, but they must justify their requirements.

The buying policies of the Coast Guard exchange system broadly cover the common industry standards of selection of sources of supply, quantities to be purchased, speculative buying and buying technique. However, the inexperienced personnel at the individual exchanges have much freedom of decision before meeting the constraints imposed by the buying policy.

There are no sales promotion policies for the Coast Guard exchange system. In the model exchange area, sales promotion is very low key with the emphasis being in cleanliness, neatness, and courteous customer service in all of the exchanges. Exchange management personnel obtain guidance and assistance from vendors and suppliers in areas of merchandise management and display and special promotions. A trend noted in the model exchange area was: the smaller the exchange, the less the emphasis placed on sales promotions.

The common retail industry service policies have little applicability to the Coast Guard exchange system with the exception of customer complaints. Although there are no exchange system policies pertaining to customer complaints, the exchange managers or exchange officers in the model exchange area personally respond

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[39] Ibid., Article A03006.

to complaints in their exchanges. General business policies of the Coast Guard exchange system are applicable as follows:

1. specification of authorized patronage,
2. credit authorization,
3. specification of authorized exchange activities,
4. specification of funding and support,
5. procedures for establishment and disestablishment of exchanges, and
6. specification of prohibited practices.[40]

All of the business policies are very narrow in scope and straightforward in nature. These policies were consistently applied at those exchanges visited.

The operating policies of the Coast Guard exchange system are broad and general in all common retail industry policy areas with the exception of personnel and general business policies. The policy guidelines that are broad and general cover the "heart" of the retailing aspect of the exchange system, i.e., "what to buy," "where to buy," "how to buy," "how to price," "how to display," and "how to establish satisfactory customer relations."

The effects of the inexperienced personnel managing the system combined with broad policy guidelines are especially evident in the revenue line of information presented in Table VIII. The revenue reported indicates how close to the breakeven point all of the small exchanges operate.

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[40] Manual for Non-Appropriated Fund Activities, Chapter A03.

TABLE VIII

INFORMATION FROM SELECTED[1] SUMMARY OF ACTIVITY REPORTS FOR SMALL EXCHANGES IN MODEL EXCHANGE AREA

Exchange Number	Information	Report Numbers 1	2	3	4
1	Sales (Store)	480	843	561	843
	Ending Inventory (Store)	1064	678	790	674
	Fixed Expense				
	Salaries	(50)	(50)	(25)	(25)
	Stamps	(2)			
	Variable Expense				
	Merchandise	(396)	(802)	(462)	(766)
	Revenue[2]	32	(9)	74	52
	Merchandise Markup Percent[3]	21.2	5.1	21.4	10.1
2	Sales (Store)	404	534	259	163
	Ending Inventory (Store)	397	747	825	713
	Fixed Expense				
	Salary	(15)	(15)	(15)	(15)
	Variable Expense				
	Merchandise	(365)	(487)	(242)	(160)
	Revenue	23	35	2	(12)
	Merchandise Markup Percent	10.4	10.2	7.0	16.9
3	Sales (Store)	456	266	414	404
	Ending Inventory (Store)	662	778	617	662
	Fixed Expense				
	Salaries	(15)	(15)	(15)	(20)
	Variable Expense				
	Merchandise	(398)	(223)	(364)	(372)
	Revenue	43	28	35	12
	Merchandise Markup Percent	14.6	19.3	13.7	8.6

[1]Four Summary of Activity Reports selected at random by Twelfth Coast Guard District personnel, covering one year of operation for all small exchanges in model exchange area except two where three reports were provided. Reporting periods covered vary from 2 weeks to 3 months. Reports are arranged chronologically from the oldest (1) to the most current (4).

[2]Revenue - Sales - (Fixed Expenses + Variable Expenses).

[3]Merchandise Markup percent - $\frac{\text{sales - merchandise expense}}{\text{merchandise expense}}$

INFORMATION FROM SELECTED[1] SUMMARY OF ACTIVITY REPORTS FOR SMALL EXCHANGES IN MODEL EXCHANGE AREA CON'T

Exchange Number	Information	Report Numbers 1	2	3	4
4	Sales (Store)	602	157	416	92
	Ending Inventory (Store)	528	340	366	340
	Fixed Expense				
	Salary	(60)	(40)	-	(20)
	Variable Expense				
	Merchandise	(509)	(138)	(379)	(78)
	Revenue	33	(21)	37	(6)
	Merchandise Markup Percent	18.3	13.7	9.8	17.9
5	Sales (Store)	5893	2563	2439	1832
	Ending Inventory (Store)	6470	7079	6824	5709
	Fixed Expense				
	Salaries	(195)	(60)	(60)	(88)
		(23)	(8)	(9)	(6)
	Total	(218)	(68)	(69)	(94)
	Variable Expense	-	(5)	-	
	Merchandise	(5362)	(2395)	(2263)	(1593)
	Utilities	(21)	(29)	(21)	(21)
	Total	(5383)	(2429)	(2284)	(1614)
	Revenue	293	66	86	124
	Merchandise Markup Percent	9.9	7.0	7.8	15
6	Sales (Store)	8381	9456	9750	34,209
	Ending Inventory (Store)	14,802	16,222	13,085	20,509
	Fixed Expense			0	0
	Variable Expense				
	Salaries				
	FICA				
	Utilities				
	Bank				
	Telephone				
	Machine Rental				
	Total	(516)	(502)	(491)	(1475)
	Merchandise	(7496)	(8465)	(8561)	(30,426)
	Revenue	369	489	698	2308
	Merchandise Markup Percent	11.8	11.7	13.9	12.4

INFORMATION FROM SELECTED[1] SUMMARY OF ACTIVITY REPORTS FOR SMALL EXCHANGES IN MODEL EXCHANGE AREA CON'T

Exchange Number	Information	Report Numbers 1	2	3	4
10	Sales (Store)	3183	1374	825	4055
	Ending Inventory (Store)	7645	7838	8855	6963
	Fixed Expense				
	Salaries	(50)	(50)	(100)	(100)
	Variable Expense				
	Merchandise	(2730)	(1236)	(682)	(3602)
	Revenue	403	88	43	353
	Merchandise Markup Percent	16.6	11.2	21.0	12.6
9	Sales (Store)	1353	2049	1281	-
	Ending Inventory (Store)	4871	4012	7114	-
	Fixed Expense				
	Salaries	(60)	(75)	(60)	
	Variable Expense				
	Merchandise	(1183)	(1743)	(1094)	
	Revenue	110	231	127	
11	Sales (Store)	2259	2064	3147	
	Ending Inventory (Store)	2318	2207	2811	
	Fixed Expense				
	Salaries	(100)	(120)	(100)	
	Variable Expense				
	Utilities	(6)	(7)	(7)	
	Merchandise	(2118)	(1869)	(2855)	
	Revenue	35	68	185	
	Merchandise Markup Percent	6.7	10.4	10.2	

Revenue is partly a function of the percent markup applied to the merchandise. The exchange officers stated that the markup percentage was a definite number in most cases at the small exchanges. The exchange reports do not show this to be a fact. For example, the markup percentage at exchange number one was reported as being ten percent rounded to the nearest penny; the percent markup indicated on the reports in Table VIII varied from 21 percent to five percent. Again, it is felt that inexperience on the part of the exchange officers and insufficient policy guidance created the large fluctuations.

Three exchanges (1, 2 and 4) showed four operating losses for the selected reporting periods. The action taken to correct the losses can be noted in Table VIII in the report following the period of loss for exchanges number one and four. Exchange number one decreased salaries by 50 percent and increased the merchandise markup from five percent to 21.4 percent in the next reporting period. Exchange number four reduced salaries only during the next reporting period. The other two operating losses (exchange two and four) occurred as a result of not selling enough merchandise to meet expenses.

D. ACCOUNTING PROCEDURES

The accounting procedures for the Coast Guard exchange system are described in detail in the Manual for Non-Appropriated Fund Activities. A rather comprehensive set of accounts and records is required to be kept by both large and small exchanges.

The accounting requirements for large and small exchanges differ only by the degree of expertise required to maintain records. Large exchanges are required to maintain a double entry bookkeeping system, where a knowledge of bookkeeping is required to properly maintain the books. Small exchanges maintain a modified double entry bookkeeping system that can be maintained by persons with little bookkeeping knowledge by following instructions in the manual. Deviations from requirements of the manual are permitted by written determination of the Commanding Officer that the following conditions exist:

1. That the accounting for the operation of the authorized exchange activities does not require a double entry accounting system; and/or

2. That a qualified person is not available to maintain the double entry accounting system; and

3. That the procedures contained in Chapter C02 are adequate to properly account for revenue from operations, assets, liabilities, and the net worth of the exchange.[41]

Small Exchanges:

1. That the accounting for the operation of the authorized exchange activities require a more elaborate double entry accounting system; and

2. That a qualified person is available to maintain the double entry accounting system.[42]

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[41] Manual for Non-Appropriated Fund Activities, Article C02001

[42] Manual for Non-Appropriated Fund Activities, Article C02002.

The remainder of the records, files and reports required are identical for both large and small exchanges. Table IX illustrates the record requirements for large exchanges; Table X illustrates the record requirements for small exchanges; and Table XI illustrates the files required to be maintained by the exchanges. The records and files provide supporting data for the reports required by the system as well as managerial information. The format for the following reports are illustrated in Tables XII through XVII:

1. Exchange Activity Statement,
2. Summary of Financial Operation,
3. Statement of Financial Condition (Large and Small Exchanges),
4. Analysis of Net Worth and Cash Positions (Large and Small Exchanges).

While the accounting instructions issued are relatively clear and straightforward, wide variations in the actual accounting records and procedures are common in the model exchange area. Contributing to the cause for the wide variations are the varying degrees of accounting knowledge and interest of cognizant personnel. For example, at the small exchanges the exchange officer maintains the accounting records, while at the larger exchanges a civilian bookkeeper is assigned. The inexperience of the exchange officers in the model exchange area has been noted.

Military personnel are transferred periodically, which may have serious effects on the quality of accounting. Civilian personnel are generally permanent and more competent as bookkeepers. However, they are sometimes left to their own personal accounting preferences

TABLE IX

RECORD REQUIREMENTS FOR LARGE EXCHANGES

Record	Purpose
Cash Receipts and Sales Journal	Record all cash receipts and sales transactions.
Purchase Journal Check Register	Record all purchase and disbursement transactions.
Issue Journal	Record issues from central storeroom to specific exchange activity.
General Journal	Record Transactions that cannot be recorded in other journals.
General Ledger	Maintain all general ledger accounts.
Sales and Collection Records	Source data for entry of sales transactions and cash overage and shortage in Cash Receipts and Sales Journal.
Checking Account and Checkbook	Provide record of and method for making all payments.
Payroll Records	Source data for payroll payments.
Petty Cash Fund	Source data for entry of cash expenditures of less than $5.00 in Purchase Journal - Check Register.
Change Fund	Source data for entry of monies used for change making in Purchase Journal - Check Register.
Check Cashing Fund	Source data for entry of monies used for check cashing in Purchase Journal - Check Register.
Exchange Property Records	Maintain record of all permanent and consumable property having a value of greater than one dollar.

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, Section C, Chapter 01.

TABLE X

RECORD REQUIREMENTS FOR SMALL EXCHANGES

Record	Purpose
Daily Exchange Journal	Record all Exchange Transactions.
Analysis of Daily Exchange Journal Transactions	Summarizes cash on hand, cash in bank, accounts payable, and accounts receivable for particular period.
Cash Register Record	Record all transactions at cash register.
Sales and Collection Record	Source of data for entry of sales transactions and cash overage and shortage in Daily Exchange Journal.
Checking Account and Check Book	Provide record of and method for making monetary expenditures.
Payroll Records	Source data for payroll payments.
Petty Cash Fund	Source data for entry of cash expenditures of less than $5.00 in Daily Exchange Journal.
Change Fund	Source data for entry of monies used for change making in Daily Exchange Journal.
Check Cashing Fund	Source data for entry of monies used for check cashing in Daily Exchange Journal.
Exchange Property Records	Maintain record of all permanent and consumable property having a value of greater than one dollar.

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, Section C. Chapter 02.

TABLE XI

FILES AND REPORTS REQUIRED IN COAST GUARD EXCHANGE SYSTEM

FILES

1. Purchase Order
2. Undelivered Order
3. Accounts Payable
4. Accounts Receivable
5. Cash Fund Authorizations
6. Cash Register Records and Tapes
7. Bank Statements, Cancelled Checks, Check Books, Bank Reconciliations, Debit Advices, Deposit Slips
8. Paid invoices
9. Board of Survey Reports
10. Concession contracts
11. Payroll Records
12. Inventory Records
13. General Correspondence
14. Exchange Property Records
15. Financial Reports

REPORTS

Title	Purpose
1. Exchange Activity Statement	Report financial results of exchange operation to higher authority.
2. Exchange Statement of Financial Condition	Report status of assets, liabilities of consolidated exchange operations to higher authority.
3. Analysis of Net Worth and Cash Positions	Analyses (1) changes to networth for accounting period(s) networth, and (2) cash position.
4. Annual Summary of Financial Operation	Summarizes annual financial operation of activity.

Reports 1, 2, and 3 are required once per quarter and upon relief of the unit commanding officer or unit exchange officer.

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, Section C.

TABLE XII

DEPARTMENT OF TRANSPORTATION U.S. COAST GUARD CG-4431 (Rev. 1-71)

EXCHANGE ACTIVITY STATEMENT

TYPE (Check applicable box) → REGULAR [X] CORRECTED [ ] NOTICE [ ] FINAL [ ] LOCAL AUDIT [ ] AREA AUDIT [ ]

REPORTING UNIT (Name): Base, Paradise Island

REPORTS CONTROL SYMBOL: CGAR Para 6167.

PERIOD OF REPORT: FROM 11/1/71 TO 1/31/72

DATA SOURCE GL ACCT.	DATA SOURCE INTERNAL CONTROL COL.	LINE		ACTIVITY A	B	C	D	E	F SUB-TOTAL	G EM CLUB	TOTAL
4100	15	1	REVENUE FROM SALES OF GOODS AND SERVICES Sales of Goods and Services	$6,000.00	$ 500.00	$	$	$	$6,500.00	$	$6,500.00
		2	COST OF GOODS SOLD Inventory Thought Forward (line 9 previous report)	1,900.00					1,900.00		1,900.00
7100	0	4	Add Purchases for Resale	5,240.00					5,240.00		5,240.00
		4	Sub-Total (line 2 + line 3)	2,140.00					2,140.00		2,140.00
7120	11	5	Less Discount for Cash	75.00					75.00		75.00
7110	11	6	Goods Shrinkage	15.00					15.00		15.00
7110	11	7	Transfers Out								
		8	Inventory End of Period	1,850.00					1,850.00		1,850.00
		9	Sub-Total (lines 5 + 6 + 7 + 8)	1,940.00					1,940.00		1,940.00
		10	Total (line 4 - line 9)	5,200.00					5,200.00		5,200.00
		11	GROSS PROFIT (LOSS) FROM SALES (line 1 - line 10)	800.00	$ 500.00	$	$	$	$1,300.00	$	$1,300.00
		12	Gross Profit Percentage (line 11 ÷ line 1)	13.3%	100 %	%	%	%	20.0 %	%	20.0 %
			OPERATING EXPENSES								
7210	15	13	Salaries (Gross)	150.00	75.00				225.00		225.00
7220	21	14	FICA Taxes (Employer's Share)	5.72	2.86				8.58		8.58
7270	24	15	Utilities	42.00	28.00				70.00		70.00
	25	16	Bank Service Charges	2.60					2.60		2.60
7250	25	17	Other (Specify)	131.32	82.50				213.82		213.82
		18									
		19	Total Operating Expenses (line 13 thru line 17)	331.64	188.36				520.00		520.00
		20	NET PROFIT (LESS) FROM SALES (line 11 - line 19)	$ 468.36	$ 311.64	$	$	$	$ 780.00	$	$ 780.00
		21	Net Profit Percentage (line 20 ÷ line 1)	7.8%	62.3 %	%	%	%	12.0 %	%	12.0 %
5200	16	22	REVENUE FROM CONCESSIONS	85.00					85.00		85.00
5300	17	23	REVENUE FROM OTHER OPERATIONS (Specify): Sale of Money Orders	30.00	Headquarters Trust Fund (½ of 1% of line 1) (Do not remit when less than $15.00) $ 32.50 District Morale Fund (10% of line 24) (Do not remit when less than $ 6.00) $ 89.50				30.00		30.00
		24	Total Revenue for Period (lines 20 + 22 + 23)	$ 583.36	$ 311.64	$	$	$	$ 895.00	$	$ 895.00

ITEMS ON REVERSE TO BE COMPLETED FOR SUMMARY OF FINANCIAL OPERATION

PREPARED BY: (s) Jack Doe — DATE: 2/3/72

APPROVED BY: (s) Al Brown — DATE: 2/3/72

PREVIOUS EDITION IS OBSOLETE

REPLACES CG-4432

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual For Non Appropriated Funds, p. C-2-19.

TABLE XIII

CG-4531 (Reverse)

SUMMARY OF FINANCIAL OPERATION

(1) Fixed Assets *(Property card value of NAFA owned Property)* $_____

(2) Number of full time civilian employees on date of summary.
(Employees working 32 or more hours per week).

(a) Retired Military ..... _____
(b) Others ..... _____

(3) Number of full time minority employees.

(a) Negro ..... _____
(b) Spanish Surname ..... _____
(c) American Indian ..... _____
(d) Oriental ..... _____

(4) Number of full time employees participating in a NAFA Employees Benefit Program.

(a) Insurance Program ..... _____
(b) Retirement Program ..... _____

(5) Number of commercial operated concessions.

(a) Minority ..... _____
(b) Others ..... _____

(6) Average number of suppliers used each month for the reporting period. _____

(7) Amount of profit revenue transferred to the unit's morale fund during the reporting period. ..... $_____

TABLE XIV

REPORT CONTROL SYMBOL CFPR-5167

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-4511A (Rev. 2-72)	STATEMENT OF FINANCIAL CONDITION (Large Exchange)	REPORTING UNIT (Name) Base, Sunshine City
TYPE OF REPORT (Check applicable box)	PERIOD OF REPORT FROM 1 Nov 1971 TO 31 Jun 1972	
X REGULAR / RELIEF / LOCAL AUDIT / CORRECTED / FINAL / AREA AUDIT	DISTRICT HQ	

LINE	ASSETS		
	CASH ASSETS:		
1	Petty Cash Fund	$ 25.00	
2	Change Fund	300.00	
3	Check-cashing Fund	1,000.00	
4	Cash on hand	1,018.02	
5	Cash in Checking Account	3,092.46	
6	Cash in Savings Account	2,000.00	
7	TOTAL CASH ASSETS		$ 7,435.48
8	ACCOUNTS RECEIVABLE		423.95
9	MERCHANDISE INVENTORY		27,893.92
	OTHER CURRENT ASSETS:		
10			
11			
12	TOTAL CURRENT ASSETS		35,753.35
	LONG TERM ASSETS:		
13			
14			
15	TOTAL ASSETS		$35,753.35
	LIABILITIES AND NET WORTH		
	CURRENT ACCOUNTS PAYABLE:		
16	Commercial Vendors	$ 7,129.42	
17	Government Sources	2,819.39	
18	Withheld Taxes and Contributions	1,144.00	
	OTHER CURRENT LIABILITIES		
19			
20	TOTAL CURRENT LIABILITIES	$11,092.81	
	LONG TERM LIABILITIES		
21	HQ TRUST FUND LOAN BALANCE (Payable $ _____ per _____)		
22	TOTAL LIABILITIES		$11,092.81
23	NET WORTH (Line 15 - line 22)		24,660.54
24	TOTAL LIABILITIES AND NET WORTH		$35,753.35
25	WORKING CAPITAL RATIO (Line 12 ÷ line 20)	$ 3.22 to $1.00	

PREPARED BY A. B. Dick A. B. Dick DATE 2/3/72

APPROVED BY Richard Roe Richard Roe DATE 2/3/72

RELIEF - As of _____ 19___ I have relieved _____ as _____ and have accepted responsibility for records and physical assets as indicated in the above statement. All assets and liabilities stated above are supported by records and documents prescribed in the Manual for Non-Appropriated Fund Activities and amending instructions.

State here if there were any exceptions or discrepancies and attach letter: _____

Date _____ Relieving Officer _____

AUDITED - This report certified to be in accordance with records on file. Physical assets verified to be on hand as stated. Supporting accounts, records, documents and files were verified and maintained as required by Manual for Non-appropriated Fund Activities and amending instructions.
State here if there were any exceptions or discrepancies and attach letter. _____

Auditor(s) _____

Date _____

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, p. C-1-40.

TABLE XV

GFPR [illegible]
REPORT CONTROL SYMBOL — 6167

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-4533 (Rev. 2-69)	EXCHANGE STATEMENT OF FINANCIAL CONDITION	REPORTING UNIT (Name): Base, Paradise Island

TYPE OF REPORT (Check applicable box)						PERIOD OF REPORT: FROM: 11/1/71 TO: 1/31/72
X	REGULAR		RELIEF		LOCAL AUDIT	DISTRICT: HQ
	CORRECTED		FINAL		AREA AUDIT	

LINE			
	CURRENT ASSETS		
	CASH ASSETS:		
1.	Petty Cash Fund	$ 20.00	
2.	Change Fund	100.00	
3.	Check-cashing Fund	200.00	
4.	Undeposited Cash (Line 5 - Form CG-4530)	225.00	
5.	Cash in Savings Account	400.00	
6.	Cash in Checking Account (Line 12 - Form CG-4530)	700.00	
7.	TOTAL CASH ASSETS		$ 1,645.00
8.	ACCOUNTS RECEIVABLE (Line 27 - Form CG-4530)		30.00
9.	MERCHANDISE INVENTORY (Line 8 - Form CG-453[illegible])		1,850.00
10.	OTHER ASSETS:		
	_____		
	_____		
11.	TOTAL CURRENT ASSETS		$ 3,525.00
	CURRENT LIABILITIES AND NET WORTH		
12.	CURRENT ACCOUNTS PAYABLE: (Line 21 - Form CG-4530)		
	Dealers	$ 850.00	
	-Income and FICA Taxes		
13.	OTHER LIABILITIES		
	_____		
14.	TOTAL CURRENT LIABILITIES	$ 850.00	
15.	HQ TRUST FUND LOAN BALANCE (Payable $_____ per_____)		
16.	TOTAL LIABILITIES		$ 850.00
17.	NET WORTH (Line 11 - Line 16)		2,675.00
18.	TOTAL LIABILITIES AND NET WORTH		$ 3,525.00
19.	WORKING CAPITAL RATIO (Line 11 ÷ Line 14)	$ 4.14 to $1.00	

PREPARED BY: Jack Doe — DATE: 2/3/72

APPROVED BY: Al Brown — DATE: 2/3/72

RELIEF - As of _____ 19___ I have relieved _____ and have accepted responsibility for records and physical assets as indicated in the above statement. All assets and liabilities stated above are supported by records and documents prescribed by the Manual for Non-Appropriated Fund Activities and amending instructions.

State here if there were any exceptions or discrepancies and attach letter: _____

Date _____ Relieving Officer _____

AUDITED - This report certified to be in accordance with records on file. Physical assets verified to be on hand as stated. Supporting accounts, records, documents and files were verified and are maintained as required by Manual for Non-appropriated fund Activities and amending Instructions.

State here if there were any exceptions or discrepancies and attach letter: _____

Auditor (s) _____

Date _____

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, p. C-2-21.

TABLE XVI

REPORTS CONTROL SYMBOL [illegible]

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-4431A (Rev. 11-70)	ANALYSIS OF NET WORTH AND CASH POSITIONS (Large Exchange)	REPORTING UNIT (Name) Base, Sunshine City

TYPE OF REPORT (Check appropriate box): [X] REGULAR [ ] RELIEF [ ] LOCAL AUDIT — [ ] CONNECTED [ ] FINAL [ ] AREA AUDIT

DISTRICT: HQ

PERIOD OF REPORT: FROM 11/1/71 TO 1/31/72

LINE			
	PART I - CHANGES TO NET WORTH FOR PERIOD REPORTED		
1	NET WORTH BROUGHT FORWARD (Line 14 Previous Report)		$ 23,958.69
2	ADD: Total Revenue From Operations (Line 24 Form CG-4531)	$ 3,073.75	
	Other Income (Non-operating) (Specify):		
3	Discount Earned	28.12	
4.	Average-Cash Register	3.70	
5	Collection of Bad Debts	186.00	
6	SUB-TOTAL (Lines 2 thru 5)		3,291.57
	LESS: Other Expenditures (Non-operating):		
7	Remittance - HQ Trust Fund-Period 10/1 - 10/31/71	$ 436.92	
8	Remittance - District Morale Fund-Period		
9	Transfer-Unit Morale Fund	1,500.00	
10	Other (Specify) Units - Off - Bad Debt	50.00	
11	Equipment - Improvement Acquired	600.00	
12	Shortage - Cash Register	2.80	
13	SUB-TOTAL (Lines 7 thru 12)		2,589.72
14	NET WORTH END OF PERIOD (Line 1 + line 6 - line 13)		$ 24,660.54
	PART II - ANALYSIS OF NET WORTH POSITION		
15	NET WORTH (Same as line 14)		$ 24,660.54
	LESS: Net Worth Reserved:		
16	Required Remittance - HQ Trust Fund (Line 25 Form CG 4531)	$ 254.98	
17	Required Remittance - District Morale Fund (Line 26 Form CG-4531)	307.38	
18	Reserve to insure sound working capital ratio (Line 20 Form CG-4533A)	11,092.81	
19	Reserve for Planned Purchases - equipment	5,000.00	
20	Reserve for Planned Purchases - improvements	4,000.00	
21	Reserve for Planned Purchases - Merchandise Stock Increase	2,500.00	
22	Reserve for Planned Purchases -		
23	TOTAL NET WORTH RESERVED (Lines 16 thru 22)		23,155.17
24	NET WORTH AVAILABLE (Line 15 - line 23)		1/ $ 1,505.37
	PART III - ANALYSIS OF CASH POSITION		
25	TOTAL CASH ASSETS (Line 7 Form CG-4533A)		$ 7,435.48
	LESS: Cash Assets Reserved:		
26	Petty Cash Fund	$ 25.00	
27	Change Fund	300.00	
28	Check Cashing Fund	1,000.00	
29	Cash in Savings Account	3,000.00	
30	Imprest Fund Exchange Advances		
31	Remittance - HQ Trust Fund (Same as line 16)	254.98	
32	Remittance - District Morale Fund (Same as line 17)	307.38	
33	Remittance - W/H Taxes & Contribution (Line 18 Form CG-4533A)	1,144.00	
34	Remittance - HQ Trust Fund Loan Payment		
35			
36	TOTAL CASH ASSETS RESERVED (Lines 25 - line 36)		5,731.36
37	CASH ASSETS AVAILABLE (Line 25 - line 36)		2/ $ 1,704.12

1/ This total indicates amount of Net Worth which can be available to be used for additional commitments. Negative ( ) total indicates need to build up net worth before making additional commitments other than required remittances. This total should be compared carefully to the cash position before making any expenditures.

2/ This total indicates the available cash position -- the amount available for additional expenditures. Negative ( ) total indicates need to build up the cash position by liquidation of inventory or reduction of cash reserves. This total should be compared carefully with net worth available before making additional expenditures.

PREPARED BY	DATE	APPROVED BY	DATE
A. B. Black	2/3/72	Richard Roe	2/3/72

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, p. C-1-41.

TABLE XVII

Reports Control Symbol ~~CG-4167~~

DEPARTMENT OF TRANSPORTATION U.S. COAST GUARD CG-4534 (Rev. 2-72)	EXCHANGE AND CASH ANALYSIS OF NET WORTH POSITIONS (Small Exchange)	REPORTING UNIT (Name) CFAR Base, Paradise Island

TYPE OF REPORT (Check applicable box)

[X] REGULAR [ ] CORRECTED [ ] RELIEF [ ] FINAL [ ] LOCAL AUDIT [ ] AREA AUDIT

DISTRICT: HQ

PERIOD OF REPORT: FROM 11/1/XX TO 1/31/XX

LINE			
	PART I - CHANGES TO NET WORTH FOR PERIOD REPORTED		
1	NET WORTH BROUGHT FORWARD *(Line 14 Previous Report)*		$ 2,160.70
2	ADD: Total Revenue From Operations *(Line 24 Form CG-4531)*	$ 895.00	
	Other Income *(Column 27 Form CG-4529) (Specify):*		
3	Discount Earned	2.30	
4	Interest - Savings Account	4.00	
5	Collection of Bad Check	15.00	
6	SUB-TOTAL *(Lines 2 thru 5)*		916.30
	LESS: Other Expenditures *(Column 26 Form CG-4529):*		
7	Remittance - HQ Trust Fund - Period 8/1 - 10/31/XX	$ 30.00	
8	Remittance - District Morale Fund - Period 8/1 - 10/31/XX	72.00	
9	Transfer - Unit Morale Fund		
10	Other *(Specify)* Goods Surveyed	15.00	
11	Equipment Purchased	275.00	
12	Write Off - Bad Check	10.00	
13	SUB-TOTAL *(Lines 7 thru 12)*		402.00
14	NET WORTH END OF PERIOD *(Line 1 + line 6 - line 13)*		$ 2,675.00
	PART II - ANALYSIS OF NET WORTH POSITION		
15	NET WORTH *(Same as line 14)*		$ 2,675.00
	LESS: Net Worth Reserved:		
16	Required Remittance - HQ Trust Fund *(Line 25 Form CG-4531)*	$ 32.50	
17	Required Remittance - District Morale Fund *(Line 26 Form CG-4531)*	89.50	
18	Reserve to insure sound working capital ratio *(Line 14 Form CG-4533)*	850.00	
19	Reserve for Planned Purchases - equipment	300.00	
20	Reserve for Planned Purchases - improvements	400.00	
21	Reserve for Planned Purchases - Merchandise Stock Increase	500.00	
22	Reserve for Planned Purchases -		
23	TOTAL NET WORTH RESERVED *(Lines 16 thru 22)*		2,172.00
24	NET WORTH AVAILABLE *(Line 15 - line 23)*		[1] $ 503.00
	PART III - ANALYSIS OF CASH POSITION		
25	TOTAL CASH ASSETS *(Line 7 Form CG-4533)*		$ 1,645.00
	LESS: Cash Assets Reserved:		
26	Petty Cash Fund	$ 20.00	
27	Change Fund	100.00	
28	Check Cashing Fund	200.00	
29	Cash in Savings Account	400.00	
30	Imprest Fund Exchange Advances		
31	Remittance - HQ Trust Fund *(Same as line 16)*	32.50	
32	Remittance - District Morale Fund *(Same as line 17)*	89.50	
33	Remittance - W/H Taxes and Contribution *(Line 12 Form CG-4533)*		
34	Remittance - HQ Trust Fund Loan Payment		
35			
36	TOTAL CASH ASSETS RESERVED *(Lines 26 thru 35)*		[1] 842.00
37	CASH ASSETS AVAILABLE *(Line 25 - line 36)*		[2] $ 803.00

[1] This total indicates amount of Net Worth which can safely be used for additional commitments. Negative ( ) total indicates need to build up Net Worth before making additional commitments other than requires remittances. This total should be compared carefully to the cash position before making any expenditures.

[2] This total indicates the available cash position - the amount available for additional expenditures. Negative ( ) total indicates need to build up the cash position by liquidation of inventory or reduction of cash reserves. This total should be compared carefully with Net Worth available before making additional expenditures.

PREPARED BY	DATE	APPROVED BY	DATE
Jack Doe	2/3/XX	Al Brown	2/3/XX

Source: U.S. Department of Transportation, U.S. Coast Guard, Manual for Non-Appropriated Funds, p. C-2-22.

and devices because of the exchange officer's preoccupation with the administration of the exchange operation.

These personnel limitations and their possible effects on the accuracy of accounting records and reports contribute to a reduction in the credibility of the financial reports submitted to the Commanding Officer of each exchange. At the smaller exchanges, a dichotomy is created, whereby the person who creates and maintains the records (the exchange officer) is supposed to be far enough removed from the records to make objective management decisions based on these records.

This accounting system is designed to permit adequate internal control and fund accountability; however, this is not feasible given the present personnel limitations.

Internal audit procedures employed within the Coast Guard exchange system to insure internal control and fund accountability require that an internal audit be held once every three months. An exception to this requirement states that if external auditors, with a background in auditing are employed, the requirement for internal audits is reduced to one every six months. Internal audits are generally performed by members of the unit exchange audit board. At almost all Coast Guard units, the only prerequisite for membership on the unit audit board is that the member be a commissioned officer.[43] Of 23 people who conducted internal audits at the various exchanges in the model exchange area, only four had any financial background or education. External audits are required only at the large exchanges.

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[43]U.S. Coast Guard Regulations, Article 7-1-18.

Internal audits conducted within the model exchange system tend to be an exercise to meet a system requirement. Inexperienced personnel are given a "cookbook" audit sheet, tend to rely on the exchange officer to lead them through the audit, and then present facts pertaining to the exchange operation. Although information is produced in these "internal audits," the credibility of the information is in doubt.

IV. TOWARD CENTRALIZATION

Today's Coast Guard exchange system is dynamic, having had a growth rate in sales of approximately 32 percent per year for fiscal years 1972 and 1973.[44] A review of factors supporting this growth reveals three predominant points:

1. Closure of Department of Defense activities with the concurrent shift of retired purchasing to Coast Guard exchanges,

2. A continued increase in retired military population in the vicinity of Coast Guard exchanges, and

3. Command interest and support of Coast Guard exchange operations.[45]

The costs for operating exchanges have also been steadily increasing. Contributing factors are increasing merchandise costs, increasing paperwork (files, records, reports) requirements for proper exchange operation, and increased personnel costs. As a result of the dynamic growth of the exchanges and the increased operating costs, the Comptroller of the Coast Guard and other financial management personnel within the Coast Guard are questioning the wisdom of the decentralized management of the exchange system.[46] The decision to take the first step toward centralization was published 22 January 1974 by the Comptroller of the Coast Guard.[47]

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[44] Information provided by Resales Programs Branch, Coast Guard Headquarters, Washington, D. C.

[45] U.S. Coast Guard Comptroller Newsletter, p. 33 U.S. Coast Guard Headquarters, Washington, D. C. 1974.

[46] Topics for discussion during comptroller session at 1973 District Commander's Conference, Washington, D. C. 10-14 September 1973.

[47] U.S. Department of Transportation, United States Coast Guard, Commandant Notice 4066. Subj: U.S. Coast Guard Satellite Exchange, 22 January 1974.

A. SATELLITE EXCHANGES

The first step toward centralization involves placing the operation of all exchanges afloat and other exchanges with yearly gross sales of less than $50,000 under the control of a larger exchange in the same geographic area. The same geographic area is defined as being within a 50-mile radius of the large exchange.[48] This new organization or system has been designated a Satellite Exchange System. As has been previously noted, there are small (satellite) exchanges and large (parent) exchanges within this new system. The definitions of these two terms are as follows:

1. Satellite exchange - An exchange activity, operating under the technical supervision of a parent exchange, established to provide exchange services at a military unit which cannot economically and/or effectively operate an independent exchange.

2. Parent exchange - A shore-based exchange which provides basic exchange services to an activity (satellite exchange) operating under a different commanding officer or officer in charge.[49] Basic exchange services to be provided by the parent exchange are (1) merchandise supply and (2) source of technical assistance.

The provisions to implement such a plan have been in the exchange regulations since the late 1960's under the heading "imprest fund exchanges." During this period, neither the term nor the concept has been generally accepted by Coast Guard personnel. However, the

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[48] Ibid.

[49] Ibid.

imprest fund concept was applied during 1972 and 1973 to a limited number of exchanges around Miami, Florida (the headquarters for the Seventh Coast Guard District). This application was the result of studies and audits conducted by personnel on the staff of the Seventh Coast Guard District Comptroller which led to the determination that the operation of an independent exchange aboard certain small floating units was not the most efficient and economical method of furnishing goods and services to attached personnel.[50]

Personnel in the Resales Programs Branch Office at Coast Guard Headquarters monitored the program in the Seventh Coast Guard District and projected the application of this program to the entire Coast Guard exchange system.[51] The following benefits were expected to accrue if the imprest fund concept were initiated as policy:

1. elimination of competition between Coast Guard exchanges,

2. patrons of satellite exchanges would be provided advantages gained through centralized purchasing such as quantity discount and vendor price reductions,

3. administrative workload and costs of operating small exchanges would be minimized, and

4. satellite exchanges could carry a broader variety of merchandise as restrictions pertaining to minimum quantity puchases would no longer be applicable.[52] After changing the name from imprest

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[50]Information furnished by the Office of the Comptroller, Seventh Coast Guard District, Miami, Florida.

[51]Information furnished by the Resales Programs Branch, Coast Guard Headquarters, Washington, D. C.

[52]U.S. Coast Guard Commandant Notice 4066, 22 January 1974.

fund exchanges to satellite exchanges, the program was initiated with an implementation date of 1 August 1974.[53]

B. SATELLITE EXCHANGES IN THE MODEL EXCHANGE AREA

Fiscal year 1973 sales for the nine small exchanges in the model exchange area varied from $4,000 to $113,000. These sales deviated from fiscal year 1972 unit sales by as much as 239 percent, as shown in Table XVIII. Eight of these small exchanges qualify as satellite exchanges on the basis of sales volume; however, only six meet the criteria of being in the same geographic area as a large exchange. All six of these exchanges are located within 5 miles of San Francisco. Total fiscal year 1973 sales for these exchanges amounted to $105,000.

Based on fiscal year 1973 sales, only one exchange in the San Francisco area qualifies as a parent exchange (exchange number 7). This exchange is centrally located to the satellites, has enough merchandise storage capacity to meet the increased demands of the satellite operation, and has a staff experienced in retail sales operation. For these reasons, this exchange is assumed to be the parent exchange for the purposes of this study. However, the assignment of this exchange as the parent exchange would cut across the normal chain of command. The implication of this will be addressed later in the chapter.

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[53] Ibid.

TABLE XVIII

SELECTED OPERATING STATISTICS OF EXCHANGES IN THE MODEL EXCHANGE AREA

Exchange Number [1]	Fiscal Year 1973 Sales (Nearest Thousand Dollars)	Percent Growth in Sales For 1972-1973	Average Inventory [2] (Dollars)	Inventory Turnover $\left(\frac{\text{Average Inventory}}{\text{Sales}}\right)$	Profit Margin (Percent)	FY 1973 Profits [3] (Dollars)
*1	$ 6	- 1.5	$ 1,096	5.47	7.02	$ 421
*2	6	10.0	731	8.21	14.68	939
3	4	24.3	646	6.19	15.42	617
*4	4	62.6	434	9.22	7.62	305
*5	26	- 6.6	6,774	3.84	12.10	3,147
6	113	53.2	14,290	7.91	7.86	8,887
p 7	501	- 8.9	86,332	5.83	4.63	23,205
8	406	27.0	67,834	5.98	11.37	46,154
*9	29	239.1	4,547	6.38	13.14	3,811
*10	34	34.1	8,522	3.99	17.78	6,047
11	23	21.9	2,382	9.66	3.18	731

[1]* Indicates will become satellite exchange, p could become parent exchange.

[2]Average inventory = (beginning inventory and ending inventory ÷ 2)

[3]Profit -- net exchange sales minus all costs incurred to make sales.

C. QUANTIFIABLE BENEFITS

Having defined the composition of the satellite operation for the model exchange area, the benefits and disadvantages of the satellite concept can be discussed. An immediate quantifiable benefit to be derived is the cost savings resulting from the termination of salaries of the satellite exchange operators. This benefit is derived from the requirement that a satellite exchange operator must be assigned as a military duty and is not entitled to pay.[54]

The exchange operators of the six small exchanges in the analysis are all military personnel. As this is the case, there will be no costs incurred in connection with items such as personnel termination pay when these exchanges are converted to satellite operations. Currently these exchange operators are being paid from $30 to $100 per month. The curtailing of these exchange operator salaries by the satellite program amounts to a cost saving of $5,000 per year. The money saved through the elimination of the salary expense can be applied directly to profit.

In order to test for benefits attributable to reductions of merchandise cost, cost information pertaining to ten selected items of merchandise was solicited. The selection of toiletry and tobacco merchandise as classes of merchandise to be sampled was necessitated by the limited merchandise lines at the smallest units. The specific identification of each item of merchandise was made so that the only factors influencing a price differential would be the vendor source

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[54] Ibid.

and purchase quantity. The merchandise items were further restricted by the number of items carried in a particular product line. An example of this restriction was found in the different shaving creams carried by the satellite exchanges. Generally two to three brand names, all of a specified size (small, medium or large), were carried by an exchange. As a result of the variances encountered in brand name and size differences, only eight of the ten items sampled were stocked by enough exchanges to provide a basis for price comparisons. An item by item comparison of savings that could be realized by having merchandise purchased by the parent exchange is shown in Table XIX.

The various exchange officers did not interact to arrive at the percentage of total yearly exchange sales for toiletry articles and tobacco accessories. Estimates had to be used as this information is not required nor calculated by exchanges in the model exchange area. Estimates made by the exchange officers were similar except for exchange number 1. Since all of the small exchanges have the same type of patrons, namely unit personnel, it is felt that the estimates for exchange number 1 were low.

Merchandise purchasing costs at the large exchange were less than or equal to merchandise purchasing costs at the small exchanges except for two different items at two different exchanges. The percentage of individual small exchange cost savings ranged from 11.5 percent to 46.7 percent for toiletry articles and from -3.4 percent to 12.7 percent for tobacco accessories. The combined percentage of cost savings for all the small exchanges (satellite

TABLE XIX

COMPARISON OF MERCHANDISE COSTS AT SELECTED EXCHANGES IN MODEL EXCHANGE AREA

Merchandise[1]	(1) Toiletry Articles a	d	f	g	i	j	(2) Total Toiletry Articles[2]	(3) Tobacco Accessories[2] b	n	(4) Tobacco Accessories[2]
Small Exchange					COSTS					
1			.657	.558		.1531	1.3681	2.25	.3242	2.5742
2	2.190					.2500	2.4400	2.06	.0000	2.0600
4	1.850			.510		.2200	2.5800	2.44	.0000	2.4400
5		1.25	.657	.510	.405	.1700	2.9920	2.23	.1606	2.3906
9	1.913	1.20	.657		.405	.2000	4.3750	2.23	.1890	2.4190
10	1.913	1.20	.657		.405	.2000	4.3750	2.23	.1890	2.4190
Total							18.1241			14.3038
Large Exchange										
7	1.147	1.05	.608	.4325	.405	.1531	3.7956	2.13	.175	2.305
Small Exchange					COSTS SAVINGS					
1			.049	.1260	0	.000	.1750	.12	.1492	.2692
2	1.043				0	.097	1.1400	(.07)	.0000	(.0700)
4	.703			.0775	0	.067	.8475	.31	.0000	.3100
5		.20	.049	.0775		.017	.3435	.10	(.0144)	.0856
9	.766	.15	.049			.047	1.0120	.10	.0140	.1140
10	.766	.15	.049			.047	1.0120	.10	.0140	.1140
Total							4.5300			.8228

[1]Merchandise information taken from question 13 of questionnaire, Appendix A.

[2]All costs shown in dollars.

Table XIX

COMPARISON OF MERCHANDISE COSTS AT SELECTED EXCHANGES IN MODEL EXCHANGE AREA CON'T

Exchange Number	Percentage Cost Savings Small Exchanges: Toiletry Articles (Cost Savings ÷ Costs)	Percentage Cost Savings Small Exchanges: Tobacco Accessories (Cost Savings ÷ Costs)	Percentage Cost Savings of Toiletry Articles at Small Exchanges Excluding Article a[4]
1	12.7	10.5	12.7
2	46.7	- 3.4	38.8
4	32.8	12.7	19.8
5	11.5	3.4	11.5
9	23.1	4.7	10.0
10	23.1	4.7	10.0
Total System[3]	21.4	5.8	12.2

[3]Total system cost savings = $\sum \frac{\text{individual savings}}{\text{individual costs}}$

[4]Article with largest cost savings removed from analysis to demonstrate sensitivity to cost changes.

exchanges) was 21.4 percent for toiletry articles and 5.8 percent for tobacco accessories. A reduction in the satellite system percentage of cost savings for toiletry articles from 21.4 percent to 12.2 percent occurs when the item with the largest cost savings is removed from the analysis. It is felt that this indicates (1) that the analysis is very sensitive to cost changes of a single sample item, and (2) that cost savings for the more expensive items tend to be larger.

Table XX illustrates the computation of cost savings for satellite operations. The assumptions that support these computations are:

1. the range of cost savings applicable to the items sampled is applicable to the remaining merchandise sold in the small exchanges, and

2. the estimates made by the exchange officers concerning toiletry articles and tobacco accessories as a percentage of total exchange sales were correct.

In order to verify the first assumption, cost of merchandise constituting 80 to 90 percent of the remaining sales at the small exchanges were compared with identical merchandise at the large exchange. This merchandise consisted of candy and cigarettes. For those items sampled, there were no cost savings for candy products and cost savings of 1.3 percent for the cigarettes when this merchandise was purchased by the large exchange. This indicates that total merchandise cost savings will probably be nearer the low estimates.

TABLE XX

MERCHANDISE COST SAVINGS AT SMALL EXCHANGES IN MODEL EXCHANGE AREA

Exchange Number	Average Yearly Costs of Sales[1] (Dollars) (1)	Estimated Average Yearly Merchandise Sales Costs[2] Toiletry (Percent) (2)	Toiletry (Dollar) (3)	Tobacco (Percent) (4)	Tobacco (Dollar) (5)	Estimated Average Cost Savings for Selected Merchandise: Toiletry Articles High[3] (Percent) (6)	Toiletry Articles High[3] (Dollar) (7) (6*3)	Toiletry Articles Low[4] (Percent) (8)	Toiletry Articles Low[4] (Dollar) (9) (8*3)	Tobacco Accessories High[3] (Percent) (10)	Tobacco Accessories High[3] (Dollar) (11) (10*5)	Tobacco Accessories Low[4] (Percent) (12)	Tobacco Accessories Low[4] (Dollar) (13) (12*3)	Combined (Dollar) High (7+11)	Combined (Dollar) Low (9+13)
1	$ 4,968	15	$ 744	5	$ 252	21.4	$ 159	1.6	$ 12	5.8	$ 15	1.0	$ 3	$ 174	$ 15
2	5,736	40	2,292	10	576	21.4	480	2.9	66	5.8	33	1.0	6	523	72
4	3,120	30	936	10	312	21.4	200	3.0	28	5.8	18	1.0	3	218	31
5	23,124	30	6,936	10	2,316	21.4	1,484	3.5	243	5.8	134	1.0	23	1,618	266
9	24,648	30	7,392	10	2,460	21.4	1,582	5.2	384	5.8	143	1.0	25	1,725	409
10	28,680	30	8,604	10	2,868	21.4	1,841	5.2	384	5.8	166	11.0	29	2,007	413
Total	90,276		26,904		8,784		5,756		1,117		509		89	6,265	1,206

Exchange Number	Estimated Yearly Cost Savings For Model Exchange System (Dollars) High $\left(\frac{7 + 11}{2 + 4}\right)$	Low $\left(\frac{9 + 13}{2 + 4}\right)$
1	$ 870	$ 75
2	1,046	144
4	545	78
5	4,045	665
9	4,312	1,022
10	5,018	1,033
Total	15,836	3,017

[1] Average yearly cost of sales = average yearly sales divided by 1 plus the markup percentage

[2] Percent of sales of item based on exchange officer's best estimate

[3] High percent of average cost savings for exchange is total system cost savings for toiletry articles and tobacco accessories derived in Table ___.

[4] Low percent of cost savings is weighted average percentage -- i.e., high percent x $\frac{\text{Cost of items in exchange}}{\text{Cost of items in all exchanges}}$

If this sample is considered to be representative, it is possible to achieve yearly cost savings ranging from $3,000 to almost $16,000 by having the large (parent) exchange purchase merchandise for the satellite exchanges. Any money saved would be a direct reduction in operating expenses and therefore, a direct contribution to profit. Profit for the combined small exchanges could be increased by as much as 108 percent over fiscal year 1973 profits.

The satellite exchange system removes the requirement for the satellite unit to perform exchange audits.[55] This means that the time normally spent by satellite audit board members auditing the exchange is available for other tasks. This is a benefit of the satellite operation that can be quantified. The additional audit costs are absorbed by the parent exchange and will be discussed later in this chapter. In order to quantify these benefits into dollar terms, hours per audit and costs per audit hour had to be derived.

As the first step in quantification, the assumption was made that the personnel named in question 20 of the questionnaire were held constant for a one year period. The procedures used to derive hourly wage rates for audit board members were the same as those described in Chapter III for collateral duty exchange officers, namely the total monthly gross pay of each audit board member divided by 160 hours. Exchange officers interviewed at the small units estimated that an audit usually took two days to complete. This was translated to mean that 8 hours per day per audit member and exchange officer were

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[55] Manual for Non-Appropriated Fund Activities, Article 05006.

expended for each audit. The exchange system requirement of four audits per year completed the information needed to quantify these benefits.[56]

A total of over $22,000 can be saved annually by satellite exchanges in the model exchange area based on the information given above. Cost savings per individual audit board are depicted in Table XXI.

The satellite exchange system reduces the number of reports, files, and records required to be maintained by the satellite exchange officer as well as removing the need for him to talk with outside vendors.[57] The benefits associated with this time saving are quantified in the same manner as those benefits associated with the small unit audit board.

The number of hours saved by the satellite exchange officer was derived from answers given to questions 21 and 23 of the questionnaire. All of the hours spent talking with outside product salesmen by the exchange officer were considered saved as the need for the vendors to come to the satellite exchanges is eliminated.

Administrative requirements have been reduced for the satellite exchanges in the following manner:

1. reports - one report submitted monthly versus four reports submitted quarterly,[58]

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[56] Manual for Non-Appropriated Fund Activities, Article A02013.

[57] U.S. Coast Guard Commandant Notice 4066, 22 January 1974.

[58] Manual for Non-Appropriated Fund Activities, Article A05015.

TABLE XXI

PERSONNEL COST SAVINGS IN MODEL EXCHANGE AREA ATTRIBUTED TO HOURS SAVED BY IMPLEMENTATION OF SATELLITE EXCHANGE SYSTEM

	Audit Board Cost Savings[1]			Exchange Officer Cost Savings				
Exchange Number	Hourly Rate[2] (1)	Average Hours Saved Per Year[3] (2)	Yearly Savings (3)	Hourly Rate (4)	Average Hours Saved Per Year[4] (5)	Yearly Savings (6)	Personnel Cost Savings in District Office[5] (7)	Total Personnel Cost Savings (3+6+7)
1	$17.37	192	$ 3,335	$4.06	156	$ 634	$ 189	$ 4,158
2	17.01	192	3,266	7.13	234	1,668	189	5,123
4	21.89	192	4,203	7.13	78	556	189	4,948
5	23.38	192	4,489	7.08	234	1,657	189	6,335
9	18.39	192	3,531	4.06	234	950	189	4,670
10	17.03	192	3,270	4.95	156	772	189	4,231
Total		1,152	22,094		1,092	6,237	1,134	29,465

[1] Audit Board Savings based on hours of audit board member + Exchange Officer who is present during audit.

[2] Hourly rate -- monthly gross pay (January 1974 pay scales) of each member ÷ 160 hours.

[3] Estimated 2 days per audit or 16 hours per audit, per audit board member and exchange officer times 4 audit per years.

[4] (Hours given as answer to question 21 of questionnaire + .5 x hours given as answer to question 23) times 52

[5] Total cost of handling exchange reports in district office x $\frac{\text{number of reports reduced}}{\text{total reports handled}}$ x 1/6.

2. records - three records required to be maintained versus eleven,[59] and

3. files - five files required to be maintained versus fifteen.[60]

The report that is required to be submitted by the satellite exchange is a new report. Since the volume of documents needed to support the entries on the report is decreased and the accounting information for the supporting documents requires less accounting expertise to prepare, it is felt that the new report is easier to prepare. A copy of this new report is included as Table XXII. The records and files required to be maintained are a subset of those required under the present system of operation. As the combined yearly paperwork required was numerically reduced by approximately 50 percent, the 50 percent factor was applied to the answers given to question 23 to obtain hourly cost savings.

Benefits totaling over $6,000 per year accrue to the satellite exchanges as a result of the reduced administrative requirements of the satellite concept.

The district office in the model exchange area also benefits from the reduction in administrative requirements. In lieu of six separate reports being reviewed by district office personnel, one consolidated report will be reviewed. The one report that is reviewed will be prepared by personnel with a background in finance, which will tend to lend more credibility to the report. The dollar

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[59] Ibid. Section C.

[60] Ibid. Section C.

TABLE XXII

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-4622 (Rev. 3-74)	STATUS OF SATELLITE EXCHANGE	MONTH REPORTED
UNIT	LOCATION	

LINE	PART I - ACCOUNTABILITY FOR AMOUNT ADVANCED	
1	Cash on Hand	$
2	Merchandise on Hand	
3	Merchandise Loss (Board of Survey attached)	
4	Total Exchange Fund Advanced	$
	PART II - ANALYSIS OF OPERATIONS	
5	Merchandise on Hand (Beginning of month)	$
6	Purchases	
7	Merchandise available for Sale (Line 5 + Line 6)	
	Less:	
8	Sale of Merchandise	
9	Losses of Merchandise (Same as Line 3)	
10	Total Sales and Losses (Line 8 + Line 9)	
11	Merchandise on Hand (Line 7 - Line 10 must equal Line 2)	$

PART III - CERTIFICATION OF SE OFFICER

I CERTIFY that the status of the Satellite Exchange for which I am accountable is as stated above.

Date _____ Signature _____

PART IV - RELIEF OF SE OFFICER

As of _____ 19___ I have relieved:

as Satellite Exchange Officer and have accepted responsibility for the Exchange Fund advance as indicated in Part I above.

_____
Signature of relieving SE Officer

PREVIOUS EDITION MAY BE USED

amount of the cost savings due to the reduction of administrative requirements was derived from information pertaining to average monthly costs of exchange report review furnished by the office of the comptroller in the Twelfth Coast Guard District. A cost savings of over $1,100 per year in the district office would be attributable to the satellite system.

D. QUANTIFIABLE DISADVANTAGES

Offsetting the quantifiable benefits of the satellite exchange program are the quantifiable disadvantages of the program.

Upon conversion to the satellite operation, the inventory of satellite exchanges will have to be revalued to conform with the cost of the parent exchange inventory. Since cost savings have been projected by having merchandise purchased through the parent exchange, the start-up cost is estimated to be the cost savings of the average inventory of the satellite exchanges illustrated earlier in this chapter in Table XVIII. The procedures used to quantify these estimate were shown in Table XX. This one time start-up cost, estimated to range from $700 to $3,200, can be written off during the first year of operation.

The costs of auditing the satellite exchanges are borne up by the parent exchange. The audit requirements of large exchanges are as follows:

1. audit by independent audit services once a year, and
2. audit by unit exchange audit board once a year.[61]

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[61] Manual for Non-Appropriated Fund Activities, Article A02013.

The audit requirements for an independent audit service are satisfied in various ways such as audits by government agency auditors (Department of Transportation), audits by reserve personnel serving on active duty who are certified public accountants in civilian life, and by hiring certified public accountants to audit. The cost to the parent exchange of the additional professional audit work required by the acquisition of the satellite exchanges is difficult to estimate.

However, assuming that a satisfactory internal control system can be established for the satellite exchanges, the increase in costs for the professional auditor should not be material. It should be noted the profits of the exchange would be affected only when a certified public accountant is hired. In the other situations enumerated, different cost centers would absorb the increase in costs. In the model exchange area, the yearly audit of the parent exchange was satisfied through a Department of Transportation audit.

The additional costs chargeable to the parent exchange audit board members as a result of the acquisition of the satellite exchanges can be estimated. The procedure used to estimate these cost is the same as that used to estimate the cost savings resulting from the elimination of satellite exchange audit boards. The parent exchange audit board, comprised of three members, took four working days to complete the last audit of the parent exchange. Assuming that the audit board members are organized and are within a 15 to 20 minute drive from the parent exchange, it has been estimated that the parent exchange audit board members (3) will expend 1/2 day

(4 hours) at each of the satellite exchanges checking inventory, records, and operations. These estimated costs total $3,100 annually.

When the quantifiable benefits and cost disadvantages of the satellite exchange operations in the model exchange area totaled, net benefits ranging from $30,000 to $44,000 remain. Approximately $5,000 to $11,000 of the total benefits accrue from merchandise cost savings and reduced satellite exchange personnel costs savings. Since these benefits are a direct reduction in operating costs of the exchange system, the profit generated by the system would increase by this amount. Cost savings of almost $29,000 are based on 2,200 personnel man-hours made available as the result of the satellite exchange operation. This extra time could be spent by members of the audit board and the exchange officer in the performance of their primary duties, training, etc.

E. NON-QUANTIFIABLE BENEFITS

Non-quantifiable benefits of the satellite exchange system are benefits that can be identified, but the impact of the benefit cannot be expressed in specific dollar terms. The most important non-quantifiable benefit derived is that of improved internal control.

The basic objectives of internal control are:

1. The safeguarding of assets,
2. The accuracy and reliability of accounting data,
3. The promotion of operating efficiency, and
4. The adherence to prescribed managerial policies.[62]

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[62]Committee on Auditing Procedure, American Institute of Certified Public Accountants, Auditing Standards and Procedures, p. 27, New York, 1963.

In the satellite exchanges of the model exchange area there were approximately $35,000 of current assets on 31 July 1973. These current assets consisted of the following items:

Cash Assets:		
Petty Cash Fund	$ 60	
Change Fund	383	
Undeposited Cash	2,599	
Cash in Checking Account	10,156	
Total Cash Assets		$13,198
Accounts Receivable		170
Merchandise Inventory		21,725
Total Current Assets		35,725

Managing these current assets in addition to other assets worth approximately $10,000 were six people with no financial or retail background and no training in exchange management. In addition to the drawbacks, all of the officers performing the duty of exchange officer were doing so in a collateral or secondary job status. Three of the exchange officers faced further hardship as this was their initial assignment in the Coast Guard and all aspects of service life were new. These people were expected to operate the exchange, interpret broad policy guidelines, maintain the necessary records, files, and reports, and establish some manner of internal control. In order to insure that adequate internal control was present in the exchange, regulations require that unit exchange audit boards audit the exchanges. Detailed procedures for auditing a Coast Guard exchange

are outlined in the regulations;[63] however, personnel assigned to the various units do not have the necessary training to effectively utilize this guidance. This means that the commanding officer must place undue reliance upon non-trained personnel for the integrity of the unit exchange operations. This can be seen in the composition of the six satellite exchange audit boards. Of the twelve persons who conducted the last audits at these exchanges, only two had any financial background. Under the satellite concept, the parent exchange is responsible for the technical supervision of the satellite exchange. Qualified representatives of the parent exchange are required to visit the satellite exchanges to review their operations and provide necessary technical assistance.[64] In the model exchange area, qualified personnel include the store manager with almost three years retail experience in addition to approximately 20 years of Coast Guard finance and supply experience, a bookkeeper with 14 years experience, and an exchange officer with three years experience and a college degree in economics. Internal control would be strengthened by: (1) qualified people reviewing the necessary reports on a monthly versus quaterly basis to ensure the accuracy and reliability of the accounting data, and (2) qualified people monitoring the operation of the satellite exchange to ensure that assets are safeguarded, that prescribed managerial policies are adhered to, and that the exchange is operating efficiently. In addition, the satellite exchanges would be audited at least once per year by professional auditors.

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[63] Manual for Non-Appropriated Fund Activities, Appendix F.

[64] Manual for Non-Appropriated Fund Activities, Article A05006.

Although the satellite exchange system benefits from the lower merchandise costs through increased profits, the exchange patron will not receive the benefit of this cost saving if the merchandise markup of the parent exchange is too great. The merchandise markup percentage for the parent exchange in the model exchange area is currently 20 percent, while merchandise markup ranges from 10 to 20 percent for the satellite exchanges. Thirty-five merchandise selling price comparisons were made of identical items sold at both the parent and satellite exchanges to ascertain any trends. Selling prices were lower at the parent exchange for 20 items, the same as satellite exchanges for 7 items, and higher than satellite exchanges for 8 items, as shown in Table XXIII. It is significant to note that none of the satellite exchanges sold all of the merchandise sampled at a price less than the parent exchange. Consumer cost savings ranging from 2 to 16 percent at the satellite exchanges were noted when all of the items in the sample were averaged. In order to test for a trend of consumer cost savings in all lines, selling prices of sample items (cigatettes and candy) constituting 80 to 90 percent of remaining satellite sales were compared with parent exchange selling prices. For these items, the selling price of candy at the parent exchange ranged from 0 to 6.6 percent lower, while the selling price of cigarettes was 4.4 percent higher. The only conclusion that can be drawn is that consumer cost savings resulting from the satellite operation will be a function of the individual consumer's market basket.

TABLE XXIII

COMPARISON OF SMALL AND LARGE EXCHANGE
MERCHANDISE SELLING PRICES IN MODEL EXCHANGE AREA

Exchange Type/Number / Item	Selling Price of Merchandise[1]									Customer Savings or Cost Increase ( ) per Item at Small Exchanges									Percent Cost Savings Small Exchanges
	Toiletry Artilces						Tobacco Accessories		Total	Toiletry Articles						Tobacco Accessories		Total	
	a	d	f	g	i	j	b	h	(1)	a	d	f	g	i	j	b	h	(2)	(2 ÷ 1)
Small Exchange																			
1			.73			.17	2.50	.35	4.35			(.02)			(.03)	(.05)	.10	.10	2.3
2	2.40			.60		.28	2.27	.28	5.32	1.02			.10		.08	(.28)	.03	.85	16.3
4	2.25			.60		.26	2.92	-	6.03	.87			.10		.06	.42	(.07)	1.00	16.6
5		1.38	.70	.55	.48	.19	2.50	.18	5.98		.13	(.05)	.05	(.02)	(.01)	(.05)	0	.10	1.7
9	2.20	1.35	.75		.60	.23	2.55	.25	7.93	.82	.10			.10	.03	0	0	1.05	13.2
10	2.20	1.35	.75		.60	.23	2.55	.25	7.93	.82	.10			.10	.03	0	0	1.05	13/2
Large Excahnge																			
7	1.38	1.25	.75	.50	.50	.20	2.55	.25	7.38										

[1] Information taken from answers to question 13 of questionnaire.

There are no requirements for training of exchange officers at exchanges with less than $500 thousand in annual sales.[65] In addition there are no Coast Guard schools or courses presently available to teach either exchange officers or exchange operators how to perform their duties. In essence, the exchange officer and exchange operator go through a period of "on the job training" to become acquainted with exchange requirements. Some exchange officers from large exchanges receive training at the Navy Exchange School in Brooklyn, New York; however, costs would be prohibitive in the model exchange area to send an exchange officer from a small exchange to school in Brooklyn.

The parent exchange has the capability to provide training and guidance to satellite exchange personnel under the satellite system. Improved operating efficiency and better internal control are the projected benefits of this training capability. As the satellite exchanges are extensions of the parent exchange, the best interests of the parent exchange would be served by providing this training.

The satellite exchange system will eleminate the need to maintain checking account balances in individual satellite unit bank accounts, as the proceeds of cash sales at the satellite exchanges are turned in to the parent exchange for additional merchandise.[66] This will permit a reduction in the overall total of funds maintained in non-interest bearing demand accounts. Additional funds will be

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[65] Manual for Non-Appropriated Fund Activities, Article A02003.

[66] U.S. Coast Guard Commandant Notice 4066, 22 January 1974.

available for deposit in the interest bearing account of the parent exchange.

The parent exchange is required by regulation to remit five percent of the satellite exchange gross sales to the satellite exchange as a standard profit share. This figure is based on historic data showing that the net profit from exchange operations for the entire Coast Guard system has averaged slightly more than five percent of the gross sales.[67] In the model exchange area, this would be advantageous to both the parent and the satellite exchange.

The parent exchange in the model exchange area has a merchandise markup of 20 percent. During the first quarter of fiscal year 1974 (1 August to 31 December 1973), a net profit of 3.61 percent was made on store sales and a combined net profit of 2.38 percent was made on sales from the store, gas station, theater, vending machines and enlisted men's club. The gross profit on merchandise sales generated by the satellite exchanges would be 20 percent, the amount of the markup of the parent exchange. From this gross profit, the following expenses must be deducted:

	Item	Estimated percentage of gross profit
1.	Satellite profit	5.0
2.	Required remittance to CG Headquarters Trust Fund	0.5
3.	Bonding costs, insurance, Cost of Utilities, etc.	1.0 (estimated using July 1973 figures)
4.	Required remittance to District Morale Fund (.10 * net profit)	1.9 (Gross profit -expenses times .10)
	Total	8.4

[67] Ibid.

After all of the estimated expenses have been deducted a net profit of 11.6 percent of satellite sales remains. Therefore, in the model exchange area, the parent exchange receives a higher percentage of profit from the satellite exchange operation than from the parent store operation. The satellite exchange, on the other hand, receives a guaranteed profit with less work (fewer reports, files, records, removal of need for audit boards, etc.). The only potential loss for the parent exchange at the satellite exchange is from a catastrophic loss and insurance covers this possibility.

F. NON-QUANTIFIABLE DISADVANTAGES

Non-quantifiable disadvantages of the satellite exchange system are disadvantages that can be identified, but the impact cannot be expressed in dollar terms.

The requirements of no pay for the satellite exchange operators represented a tangible benefit; however, this requirement also represents an intangible disadvantage. At the present time, the Coast Guard has no military rating that is trained to operate exchanges as do other Armed Services. Coast Guard military exchange operators especially aboard ships, are almost all volunteers. The incentive for volunteering as exchange operator is a part time salary. Interviews with exchange officers of the satellite units revealed a consensus that the exchange operators would quit if the salary incentive were removed. The exchange officers did not think that enough additional incentives could be provided to induce the exchange operators to remain on the job. The solution to the problem is either to order the present experienced operator to perform the job or seek

another volunteer. The consequence of this solution could leave the units with an unwilling exchange operator, an inexperienced exchange operator or with a constant exchange operator turnover.

Although the Coast Guard has no military rating specifically trained to operate exchanges, the capability was created when a new enlisted rating (work specialty), Subsistance Specialist (SS), came into being on 1 January 1973.[68] It is stated within the scope of the rating that: "SS personnel are prepared to assist in the management of the Coast Guard exchanges."[69] Since the two ratings that were combined to create the SS rating had no training in exchange management or operation, this capability has to be developed. Presently, there are no Coast Guard schools or courses to provide training and no SS personnel assigned to exchange billets.[70]

However, the following action is being taken by Coast Guard Headquarters to make the capability a reality:

1. Identification of specific billets for SS personnel in shore based exchanges.[71]

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[68]U.S. Department of Transportation, United States Coast Guard Commandant Notice 1440, Subject: Establishment of the general rating of Subsistance Specialist (SS) with Central Assignment Control (CAC), 21 November 1972.

[69]U.S. Department of Transportation, United States Coast Guard Enlisted Qualification Manual, p. 4-35, Government Printing Office, Washington, D. C. 1967.

[70]Data obtained through interviews with administrator and instructors at the Subsistance Specialist School, Petaluma, California, March 1974.

[71]Ibid.

2. Development of a school to teach SS personnel about the management and operation of messes and exchanges. The initial class is scheduled to begin in the spring of 1974.[72]

3. Development of correspondence courses to include material pertaining to exchange operations. The first course is scheduled to be available in the spring of 1974.[73]

The full potential and capability of the SS rating in the area of exchange management and operation will probably take several years to develop; however, once developed, the problems with exchange operators previously discussed will become minimal or cease to exist.

Personnel at the satellite exchanges are responsible for providing transportation for the shipment of goods to and from the parent exchange.[74] Since the regulations concerning satellite exchange fund expenditures only allow expenditures for exchange merchandise purchases,[75] it is assumed that government transportation will be utilized by the satellite exchange for logistic purposes. Government vehicle use is generally based upon operational priorities, a fact that could hamper the satellite exchance operation. Also, the use of government vehicles was restricted as a result of the recent energy crisis.

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[72]United States Coast Guard Headquarters, "Subsistance Specialist Notes," Comptroller Newsletter, Number 22, p. 52, 1 February 1974.

[73]Ibid.

[74]Manual for Non-Appropriated Fund Activities, Article A05012.

[75]Manual for Non-Appropriated Fund Activities, Article A05013.

The Coast Guard exchange system is currently integrated into the normal chain of command. The concept of the satellite exchange has made changes to the normal chain of command possible by having a district unit become a satellite exchange of a headquarters unit or vice versa, i.e., the proposed satellite operation makes the parent exchange a headquarters unit and the satellite exchanges district units. Normally the satellite concept entails a change in reporting requirements for the satellite exchange only. If a headquarters unit were satellited to a district unit, there would be no reporting changes required at the parent exchange. However, if a district unit were satellited to a headquarters unit, the reporting requirements of the parent would have to change to allow the district office to be kept informed of the exchange activities of the district unit. The change in the reporting requirements would be easy to achieve, whereas the deviation from the normal chain of command would be a problem area.

Several commanding officers and the comptroller of the Twelfth Coast Guard District were interviewed to obtain their reactions to the satellite exchange concept. Almost everyone questioned agreed that change was needed and the concept was good; if applied in the proper manner. Almost everyone also agreed that they were not in favor of implementing the new system. Although the reasons given for not implementing the new system varied, the common factor in all answers was an uncertainty of what would happen to the chain of command under the new system. Thus, it is felt that strong resistance would be encountered to any proposal that satellited a district unit to a headquarters unit.

A contract is utilized to formulate the specific manner in which the satellite exchange system will operate. Although described under non-quantifiable disadvantages, there are both advantages and disadvantages associated with the use of contracts. Assuming that the parties involved could come to an agreement, an immediate benefit that would accrue from the use of contracts is that the position of the satellite and parent exchanges within the chain of command can be clarified since specific definition of the responsibilities and procedures outlined in the general regulations would be enumerated.

In the model exchange area, personnel in the office of the comptroller of the Twelfth Coast Guard District will formulate a single contract for all of the district units that will become satellite exchanges. This method of contract administration is beneficial since the satellite operation is standardized.

A disadvantage that could occur through the use of contracts to implement the satellite concept is that many different methods of operation could develop within a single satellite exchange system, depending upon the specifics of the individual contracts. Even if it is assumed that the various district offices will standardize contracts within the district to alleviate this problem, differences in specification and interpretation of regulations exist among the various districts and units not qualified or required to come under satellite exchange operation.

There are two exchanges in the model exchange area that qualify as satellite exchanges in size, but do not fall within the same geographic area (50 miles). These small exchanges have problems that

are similar to the satellite exchanges. The remoteness of their physical location and probable dependence upon local suppliers could intensify any of the problem areas discussed.

V. APPLICABILITY OF SATELLITE EXCHANGE CONCEPT TO COAST GUARD EXCHANGE SYSTEM IN CONTINENTAL UNITED STATES

A. PURPOSE

Although the satellite exchange concept would be beneficial to the model exchange area, it does not necessarily follow that the concept would improve exchange operations in other areas of the United States. The purpose of this chapter is to illustrate that similar conditions exist not only in the model area but also at the remaining exchanges in the continental United States. Whenever differences occur between the two, the effects of the differences are explained. The following aspects of the exchange system are investigated to determine similarity: (1) physical (i.e., size, location, classification), (2) personnel, (3) merchandise, and (4) internal control. Once the compatibility of the exchanges in the model area with the remaining exchanges has been demonstrated, the concepts, benefits, and disadvantages of satellite exchanges in the model area are projected to the remainder of the system.

Regulations promulgated by Coast Guard Headquarters pertaining to policy and accounting systems previously described for the model area are considered applicable to all exchanges and no further discussion on the subject is included. The basis for this belief is the 100 percent response to question 19 of the questionnaire stating that no additional exchange regulations had been promulgated by an authority higher than the unit at which the exchange operated.

Information pertaining to the physical aspects of the exchange system was taken from statistical data compiled by Coast Guard

Headquarters. Information pertaining to personnel, merchandise, and internal control was derived through the use of the questionnaire shown as Appendix A. One hundred and twelve questionnaires were mailed to exchanges located in the continental United States. This total includes three questionnaires mailed to units within the model exchange area. Seventy-nine completed questionnaires were received from exchanges not in the model exchange area. Information pertaining to these completed questionnaires is as follows:

Exchange Classification	Responses	Responses as percent of exchanges in Classification
Large	17	73.9
Medium	10	90.9
Small	52	64.5

A new exchange classification, medium, is introduced to distinguish between the small exchanges that are required to become satellite exchanges due to yearly sales volume and those that are not. A medium exchange is defined as an exchange having total yearly sales of more than $50,000 but less than $150,000 per year.

B. DESCRIPTION

There were 124 Coast Guard exchanges, either afloat or ashore, operating in the continental United States during fiscal year 1973. These exchanges were geographically located from Maine to Florida on the Atlantic Coast, from Florida to Texas on the Gulf Coast, from California to Washington on the Pacific Coast, from New York to Minnesota on the Great Lakes, and in St. Louis, Missouri in the

Midwest. Fiscal year 1973 sales at the individual exchanges ranged from a low of $639 to a high of over $3.6 million. Approximately $30 million dollars of total sales were generated during this period.[76] Table XXIV presents information pertaining to the Coast Guard exchange system composition and sales.

The geographical location of the exchanges is described as being within a specific Coast Guard District. The term district, as defined in this study, is an area structure that is established by Coast Guard regulation. The continental United States is subdivided into ten Coast Guard Districts as shown in Figure 2.

C. PHYSICAL ASPECTS

A listing of Coast Guard exchanges by fiscal year 1973 sales volume exchange size, and district location is presented in Table XXV. All of the information presented was either taken or derived from publications issued by Coast Guard Headquarters except for that in Column 6. Information in this column was derived by plotting Coast Guard exchanges on a map and measuring distances.

Large exchanges are located in every Coast Guard District except the Eleventh. This means that no exchanges are qualified to be parent exchanges under the satellite concept in this District. Therefore, the six small exchanges in the district would not be effected by the satellite concept. In fact, the requirement for the satellite exchange to be within a 50 mile geographical radius of a

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[76]U.S. Coast Guard Resales Program Branch, Unclassified open letter; Subj: About Coast Guard Exchanges, 1 September 1973.

TABLE XXIV

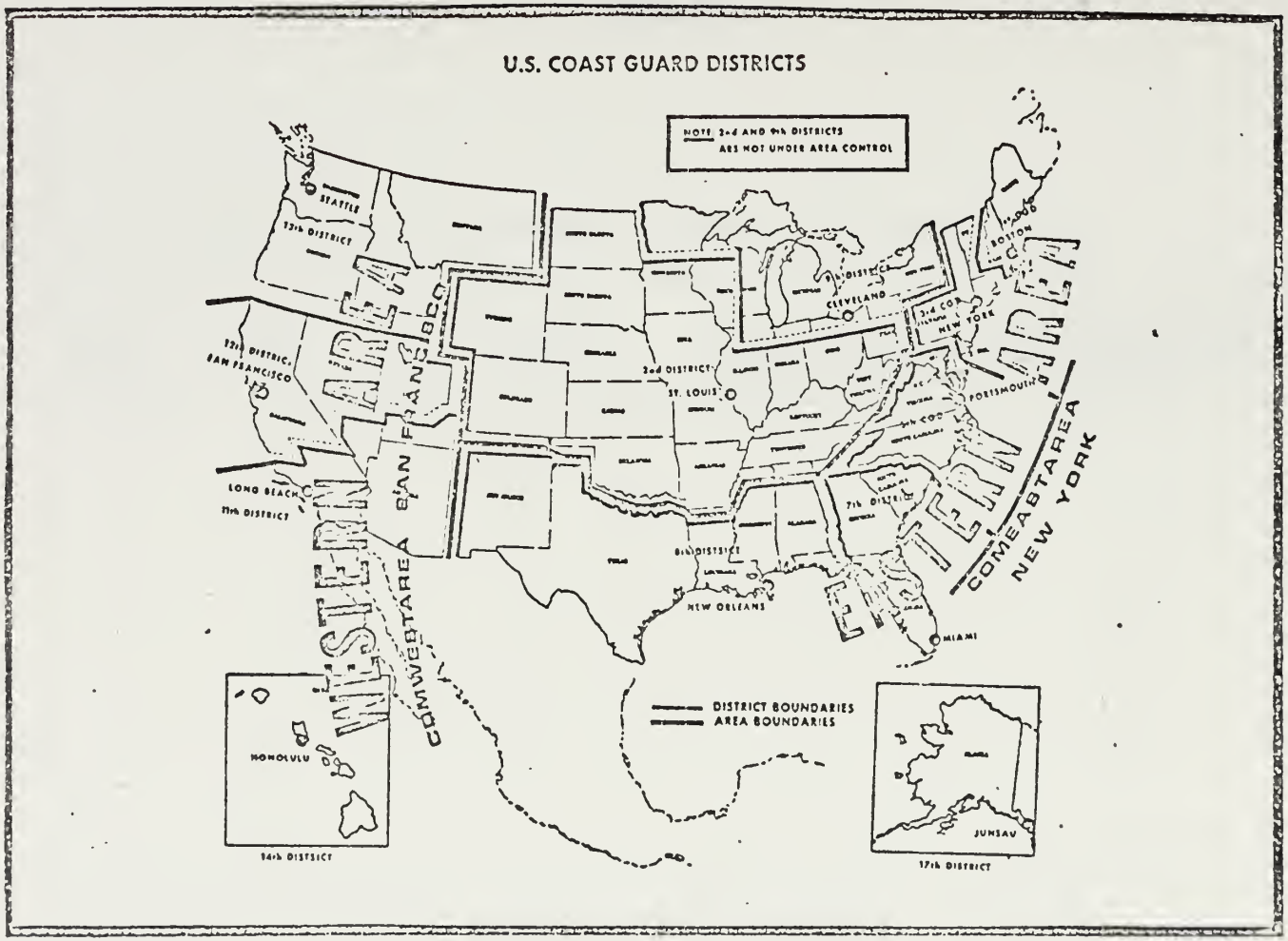
COMPOSITION OF THE COAST GUARD EXCHANGES WITHIN THE CONTINENTAL UNITED STATES IN FISCAL YEAR 1973

Exchange Location	Number of Units	Percent of Total Exchanges	Total Sales[1]	Percent of Total System Sales	High Sales	Medium Sales	Low Sales
		Large Exchanges					
Ashore	25	20.2	27,348	90.3	3,665	698	166
		Medium Exchanges[2]					
Ashore	12	9.7	1,089	3.6	113	91	61
		Small Exchanges					
Ashore	18	14.5	521	1.7	49	27	7
Afloat	69	55.6	1,338	4.5	49	26	1

Source: U.S. Coast Guard Resales Program Branch, Unclassified Open Letter; Subj: About Coast Guard Exchanges, 1 September 1973.

[1]All sales reported in thousands of dollars.

[2]Medium exchanges -- exchanges with sales > $50,000 but < $150,000.



Derived from: U.S. Department of Transportation, Directory: January 1971 (Washington: U.S. Government Printing Office), p. 185.

FIGURE 2

TABLE XXV

LOCATION OF COAST GUARD EXCHANGES IN CONTINENTAL UNITED STATES BY DISTRICTS

District	Number of Large Exchanges	Number of Medium Exchanges	Number of Small Exchanges			Number of Small Exchanges > 50 miles From Large Exchange	Small District Exchange Near Large Headquarters Exchange	Number of Headquarters Units In District
			Ashore	Afloat	Total			
First	2	2	5	12	17	7	0	
Second	1							
Third	6	1	1	10	11	0	3	3
Fifth	3	1	4	10	14	4		3
Seventh	4	1	1	3	4	4	0	
Eighth	3	1	3	8	11	8	0	1
Ninth	2	2	2	7	9	7	0	
Eleventh	0	2	0	6	6	6	0	
Twelfth[1]	2	1	2	6	8	2	6	2
Thirteenth	2	1	1	6	7	7	0	
	—	—			—	—	—	—
Total	25	12			87	51	9	9

Source: United States Coast Guard Headquarters, Comptroller Newsletter Number 22, 1 February 1974.

[1]Model exchange area.

parent exchange limits the number of small exchanges that can become satellites to 37 in the entire exchange system. It is interesting to note that The Third Coast Guard District is the only area where all the small exchanges meet this requirement.

The Third Coast Guard District is also the only area, besides the model area, in which exchanges of districts units, would become satellites of a headquarters unit parent exchange. A total of 9 small exchanges or approximately 25 percent eligible to become satellites would be effected by the problems discussed in Chapter Four caused by an aberration of the chain of command.

Since approximately 41 percent of the small exchanges in the exchange system meet the location criteria to become satellite exchanges, the physical makeup of the system lends itself to the application of the satellite concept.

D. ADMINISTRATIVE PERSONNEL

Administrative personnel include the exchange officer, assistants to the exchange officer such as store manager, merchandise manager, bookkeeper, etc., and exchange operators. Included in the category of exchange operators would be sales personnel, stockroom personnel, warehouse personnel, etc. The satellite exchange concept is based on the premise that the expertise of the parent exchange personnel can be utilized by the satellite exchange. Specific questions of the questionnaire were designed to solicit information pertaining to these personnel.

Data pertaining to exchange officers was obtained through responses to questions one through four and twenty-one through

twenty-three. This information is summarized and presented in Table XXVI. The years of military experience are examined to ascertain the degree of familiarity with military problems the exchange officer has. It is reasoned that as military experience increased: (1) the exchange officer would have to spend less time adjusting to a new job and new way of life, and (2) military management techniques previously learned could be transferred to the job of exchange officer. The duty classification of the job is included to determine the relative importance of the job at the unit level. Exchange officer rate of turnover is indicated by the number of years spent working on the job. Previous financial experience, defined as formal education in an area of finance or a minimum of one year's experience is included to indicate the background of the exchange officers. Finally the estimated number of hours per month used by collateral duty exchange officers to work on exchange matters are included to depict the emphasis placed on the job by the exchange officer.

A higher percentage of exchange officers at large exchanges have more years of military service than the exchange officers at the small exchanges. At approximately 60 percent of the large exchanges, the duty is classified as primary; whereas at almost 96 percent of the small exchanges, the duty is classified as collateral or secondary. Approximately 65 percent of the large exchange officers had previous financial experience compared with 25 percent of the small exchange officers. The number of estimated hours spent working on exchange matters by the collateral duty exchange officer tended to increase directly in proportion with the

TABLE XXVI

INFORMATION PERTAINING TO EXCHANGE OFFICERS IN COAST GUARD EXCHANGE SYSTEM

Exchange Size	Number of Exchanges	Years of Military Experience			Duty Classification		Years in Job			Previous Financial Experience[1]		Estimated Collateral Duty Exchange Officer Hours Per Month Spent Working on Exchange Matters		
		(0-1)	(1-3)	(>3)	Primary	Collateral	(0-1)	(1-3)	(>3)	Yes	No	High	Low	Medium
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)			
Large	17	1/5.9[2]	3/17.6	13/76.5	10/58.8	7/41.2	6/35.3	9/52.9	2/11.8	11/64.7	6/35.3	160	32	76
Medium	10		3/30	7/70	2/20	8/80	7/70	3/30		3/30	7/70	140	12	65
Small	52	16/30.8	22/42.3	14/26.9	2/3.8	50/96.2	40/76.9	11/21.2	1/1.9	13/25	39/75	132	8	59
Model Exchange Area														
Large	2			2/100	2/100		1/50	1/50		2/100				N/A
Medium	1			1/100		1/100	1/100				1/100	159	159	159
Small	8	4/50	1/12.5	3/37.5		8/100	6/75	2/25			8/100	40	10	27.5

[1]Previous financial experience defined as formal education in a finance area or a minimum experience of one year in an area of finance.

[2]Information presented in columns 1-10 are shown as number/percent.

dollar sales volume of the exchange. It is interesting to note that the lowest estimate at both large and small exchanges was submitted by personnel with little service and no financial experience. This data indicates that the exchange officers of large exchanges generally have more expertise than exchange officers of small exchanges. However, there are cases where this generally does not apply. Experienced assistants to the exchange officer can compensate for lack of expertise on the part of the exchange officer. Before examining the consequences of lack of expertise on the part of the exchange officer, the status of exchange officer assistants needs to be examined.

Information pertaining to exchange officer assistants and operators at large and small exchanges are found in Table XXVII and Table XXVIII respectively. The length of service for exchange officer assistants is divided at the two year point as it is felt that after two years a person should be trained and effective in the job. The number of operators required to maintain operations is directly proportional to the magnitude of the operation. The range of the number of operators varies from 2 part time employees to 27 full time employees, at large exchanges, while the range at the small exchanges varies from 0 to 3 part time employees. The range of the number of assistants varies from 0 to 16 full time employees at the large exchanges as contrasted with only 2 small exchanges having part time assistants. The information presented in the two tables clearly shows that in nearly all cases, the assistants at the large exchanges have some experience and/or expertise.

TABLE XXVII

INFORMATION PERTAINING TO EXCHANGE OFFICER ASSISTANTS AND EXCHANGE OPERATORS AT LARGE COAST GUARD EXCHANGES

Exchange Designation	Assistants				Length of Service in Years		Previous Experience Similar Job Years	Monthly Wages	Operators				Monthly Wages
	Civilian		Military						Civilian		Military		
	Part Time	Full Time	Part Time	Full Time	< 2	> 2			Part Time	Full Time	Part Time	Full Time	
L-1		5			3	2	2	$3,500	6				$ 1,739
L-2		3		1	1	3	3	3,118		27			26,635
L-3		2				2	1	1,443		2	6		6,760
L-4		1				1	0	546	1	1			583
L-5		11			3	8	11	4,700	3	15			6,187
L-6		0		0				0			2		270
L-7		0		0				0			2		180
L-8		4			2	2	4	3,961	6	20			7,815
L-9		3			2	1	3	1,720	2	2			400
L-10		3			1	2	2	not given	2	6			not given
L-11		7			1	6	1	4,543	7	16	4		8,540
L-12		5			4	1	3	7,017		15			not given
L-13		16			11	5	12	not given	8	34			not given
L-14		5			2	3	1	3,661	2	11			5,125
L-15	1	2			1	2	2	1,260		2	12		1,655
L-16	1	2			2	1	1	1,272		1	2		740
L-17		3		1	1	3	2	1,484		1	1		584

TABLE XXVIII

INFORMATION PERTAINING TO EXCHANGE OFFICER ASSISTANTS AND EXCHANGE OPERATORS OF SELECTED[1] SMALL COAST GUARD EXCHANGES

Exchange Designation	Assistants							Operators				
	Civilian		Military		Length of Service in Years		Previous Experience in Similar Job Years	Monthly Wages	Civilian		Military		Monthly Wages
	Part Time	Full Time	Part Time	Full Time	< 2	> 2			Part Time	Full Time	Part Time	Full Time	
S-1											1		40
S-3			1		1		1	75			2		50
S-9				1	1		1	Military Salary			2		105
S-11								0					0
S-19											2		100
S-21											1		55
S-25											2		35
S-27											1		30 + Commission
S-30											1		25
S-36											2		140
S-43											0		0
S-44											3		162
S-47											3		120
S-49											2		128
S-50											1		15
S-52											2		110

[1] All small exchanges with replies differing from conditions in model exchange area included, remainder picked at random.

Unfortunately, the exception to the generality of expertise of exchange officer assistants at all large exchanges occurs at the same exchanges where the exchange officers have no expertise and little military experience. Needless to say, these two exchanges are not satisfactory as parent exchanges under the satellite concept.

A fact revealed by questionnaire response is that at two small exchanges, the exchange officer is also the exchange operator. Although this reduces the cost of business by the amount of the operator's salary, there are other effects discussed under internal control that are not good.

E. MERCHANDISING

The term merchandising has been defined as "the planning involved in marketing the right merchandise, at the right time, at the right place, in the right quantities, and at the right price."[77] This definition applies to the exchange system as well as to general retailing business. Merchandising benefits such as lower merchandise cost, lower merchandise selling prices of some items, etc., were enumerated for the satellite system operation in the model exchange area. The merchandising information presented in Table XXIX, illustrates merchandising policies being utilized in exchanges outside the model exchange area. The data is arranged by district area so that geographical differences in price have no effect upon the comparisons being made on each page.

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[77] Committee on Definitions, American Marketing Association

TABLE XXIX

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-1	No set system. Staple items name brands	Work with vendors expertise of unit personnel	Follow Navy Markup System	1.77	.70	.26	1.98	.78	.32
M-1	No answer	Inventory on shelves, keep close watch	Retail prices, other exchanges	1.77	-	.1531	1.95	-	.17
M-2	Base amount per heavy turnover items, 1 or 2 of other items	Base amount	10 percent markup	1.77	.698	-	1.95	.77	-
S-1	Crew suggestions	Toiletries 1 month before depletion, others as storage permits.	10 percent markup	1.77	.71	.15	1.95	.78	.17
S-2	Unit demand, item availability, shelf life	Reasonable supply during deployment	10 percent markup	2.13	-	.1495	2.34	-	.16
S-3	Past sales, request from crew	Slow movers - run out Fast movers - order when stock low	10 percent markup rounded to nearest 5¢	1.77	-	.15	1.95	-	.20
S-4		Roughly know what sells over month's period. Restock before trip	10 percent markup	1.56	-	.26	1.73	-	.29
S-5	Past experience of buyer demands, crew requests	Use reader point method	10 percent markup rounded to nearest 5¢	1.77	-	.146	1.95	-	.16
S-6	Customer response	Rate of turnover length of patrol	10 percent markup rounded to nearest 5¢	-	-	.146	-	-	.20
S-7	Customer request past records	Order lag time, rate of sales	10 percent markup	1.77	-	.144	1.95	-	.15

[1]Size designation -- L, large; M, medium; S, small.

[2]Responses to question 9 of questionnaire.

[3]Responses to question 10 of questionnaire

[4]Responses to question 12 of questionnaire

[5]Responses to selected merchandise in question 13 of questionnaire

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-2	Supply and Demand	High - Low Method	Navy variable system	1.77	.608	.1531	2.10	.85	.20
L-3	Demand	Turnover	10 Percent Markup	1.80	.63	-	2.00	.70	-
L-4	Demand	Average rate of sales known, use EOQ model	20 Percent Markup	-	-	.14	-	-	.18
L-5	Salesmen, trade publications, etc.	EOQ model	Navy variable system	1.77	.61	.15	2.00	.70	.18
L-6	Customer demand, experience	Watch inventory, experience	10 Percent round to nearest 5¢	2.126	.73	-	2.35	.80	-
M-3	Customer demand, turnover	Watch inventory	Variable	2.10	-	-	2.50	-	-
S-8	Past sales, customer response	Watch inventory	Variable on sales volume	-	.68	-	-	.75	-
S-9	Past sales, customer response	Stock for deployment	District auditors determined	1.77	-	.1531	1.95	-	.17
S-10	Customer demand	Product gets to 1/3 Supply	8 Percent	-	.56	-	-	.61	-
S-11	Limited product line	Watch inventory	daily sales	-	-	-	-	-	-
S-12	Customer demand	Watch inventory	5 - 10 Percent	1.77	-	-	2.00	-	-

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-7	Vendor publications, customer demand	No limits, visual inventory check	15 percent fast turnover item, 10 percent slow turnover item	1.739	-	.1531	2.00	-	.17
L-8	Customer demand, vendor publications	Order enough to last through salesman interval	Compete with other sources	1.77	.62	-	2.04	.71	-
S-13	Customer demand, past experience	Order what think is needed	5 - 10 percent rounded to nearest 5¢	1.77	.698	-	1.95	.75	-
S-14	Product turnover	when get to 1/4 of min. order	10 percent	1.77	.665	.15	1.95	.70	20
S-15	Limited products	Run out	5 - 10 percent	-	-	.19	-	-	.20
S-16	Price demand, quality	Past Sales, watch inventory	10 percent rounded to nearest 5¢	1.77	.496	.1531	1.95	.55	.17
S-17	Customer demand	Maintain set inventory level	5 - 10 percent	1.80	-	-	1.90	-	-
S-18	Customer demand, stock turnover, profit margin	Watch inventory	Use markup of Marine NAFA system	-	-	.15	-	-	.18
S-19	None	Watch inventory	10 percent	-	-	-	-	-	-
S-20	Customer demand, past experience	Best guess	10 percent rounded to nearest 5¢	2.13	-	.145	2.35	-	.15
S-21	Customer demand	Watch inventory	CO determines	1.77	.474	.146	1.95	.55	.15
S-22	Personal and convenience items - six larger exchanges nearby	Watch inventory	15 percent	2.13	.45	-	2.40	.55	-
S-23	Customer demand	Watch inventory	10 percent for items under $100 - 5 percent for items over $100	-	-	-	-	-	-

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-9	Customer demand, trade publications	EOQ formula	10 - 18 percent	1.77	-	-	2.04	-	-
L-10	Stock control records	Stock control records	variable	-	-	-	-	-	-
L-11	Customer demand	Salesmen suggested	variable	1.77	.6084	.1531	1.99	.69	.18
M-4	Customer demand	High turnover one day's stock - low turnover re-order when empty	10 - 15 percent	1.77	.474	.1531	2.00	.53	.17
S-24	Customer demand	Watch inventory	10 percent rounded to nearest 5¢	-	-	-	-	-	-
S-25	Customer demand	Watch inventory	11 - 14 percent	1.84	.63	.14	2.00	.80	.16
S-26	Customer demand	Based on schedule	10 percent rounded to nearest 5¢	-	-	-	-	-	-
S-27	Customer demand	reasonable level, yet restock before depletion	10 percent, special order 5 percent	-	.474	-	-	.55	-

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-12	Customer demand	Stock control, inventory	Vary by department conform with other exchanges	1.77	.6083	.1531	1.95	.67	.17
L-13	Customer demand, name brand	Monthly basis cardex inventory	Navy price bulletins	1.77	.61	.16	2.00	.70	.18
M-5	Customer demand, turnover rate	Min. order quantities, watch inventory	15 percent, conform with local retail sources	-	.60	-	-	.70	-
S-28	Customer demand	Rate of sale and time to fill order	10 percent	2.00	.49	-	2.20	.55	-
S-29	Customer demand, turnover rate	Deployment schedule	0 - 5 percent stock items 10 percent special order	2.00	.59	.20	2.10	.65	.20
S-30	Customer demand, rate of turnover	------ -----	10 - 15 percent	-	.70	.14	-	.80	.15
S-31	Past experience	When item down to 6	Past experience, current profit quota	-	.62	.16	-	.68	.18
S-32	Customer demand	------ -----	10 - 15 percent	-	.59	.22	-	.65	.24
S-33	Customer demand, past experience	Watch inventory	10 percent rounded to nearest 5¢	1.72	.60	.15	1.90	.70	.15
S-34	Customer demand, stock turnover rate	Watch inventory	10 percent	2.15	.73	.175	2.40	.80	.20
S-35	----- -----	Demand	15 percent	-	.60	-	-	.70	-
S-36	Customer demand, rate of turnover	Watch inventory	10 percent	2.16	.78	.14	2.37	.85	.15
S-37	Customer demand	6 to 8 week supply	----- ----- -----	-	-	-	-	-	-
S-38	Customer demand	Watch stock	10 percent	1.77	.72	-	1.95	.80	-
S-39	Customer demand, rate of turnover	Watch inventory	10 percent rounded to nearest 5¢	-	.639	.18	-	.70	.20

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	j	j	a	f	j
L-14	Customer demand, low inventory but not runout	Product turnover	10 percent, special order 5 percent	1.77	-	.1531	1.95	-	.17
L-15	Popular demand, 4 - 6 week supply on hand	So as not to runout	12.5 percent or competitive with outside market	-	-	.23	-	-	.24
M-6	Demand basis	When product reaches low level	Round to nearest 5¢ above cost with exception of tobacco	-	.57	-	-	.60	-
M-7	Staple items, experience as to how much	cigarette inventory once a week - other items as last item taken out of storeroom	10 percent	1.77	-	-	1.95	-	-
S-40	Basic toiletries 2 week supply	Order at 1 or 0 remaining	12.5 percent	2.00	-	-	2.25	-	-
S-41	Past experience	Stock for patrol not runout	10 percent to nearest 5¢	2.127	.64	-	2.35	.70	-
S-42	Customer demand, past experience	Prior to deployment	10 percent	-	.61	.15	-	.67	.17
S-43	Customer demand	Visual inspection	5 percent to nearest 5¢	-	.608	-	-	.70	-
S-44	Past experience	Visual inspection	15 percent to nearest 5¢	-	.47	.14	-	.55	.20
S-45	Demand	Below one week supply	10 percent	2.15	-	-	2.36	-	-

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
M-8	Customer demand, space limits amount	Sight inventory	10 percent	1.77	.506	-	1.95	.55	-
M-9	Evaluation of exchange officer and operator 3 to 6	Rate of sale in past and delivery time	10 percent	2.07	.61	-	2.28	.67	-
S-46	Past experience	Visual inspection	15 percent rounded to nearest 1¢	1.89	.48	-	2.15	.55	-
S-47	Past inventory, logical guess	Rule of thumb	15 percent	1.77	.47	.15	2.04	.54	.17
S-48	Demand, past inventory	One month's normal sales volume left	By rate of turnover, faster items higher,, 10 - 15 percent	1.46	.55	.20	1.65	.60	.23
S-49	Past experience, customer demand	Run down to as few items as possible without running out.	15 percent rounded to nearest 5¢ on items over $1.00	-	-	.15	-	-	.18

SELECTED MERCHANDISING INFORMATION FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT CON'T

Exchange Designation by size[1]	Buying Information			Specific Merchandise[5]					
				Article Costs			Article Selling Price		
	What[2]	When[3]	Method of Pricing[4]	a	f	j	a	f	j
L-16	Major brands, order more of best selling	When warehouse stock placed on shelf	10 percent most items 20 percent cigarettes 18 percent beer	1.77	.6975	.146	1.97	.78	.17
L-17	Patron requests, Name brands	Hi-Low method	Food items 10 percent Non-food items 20 percent Gasoline 17 percent	-	.608	.174	-	.77	.22
M-10	Trial and error	Arbitrary	10 - 15 percent	1.57	.608	-	1.75	.70	-
S-50	High demand items Space limitations	Low as possible	To maintain as low a profit margin as possible	-	.82	-	-	.86	-
S-51	Customer preference and convenience of stocking	Order by patrol	10 - 15 percent	1.73	.474	.13	1.90	.55	.20
S-52	Crew response	Amount left versus time to fill order	10 - 15 percent	-	.474	.1531	-	.52	.16

The merchandise buying information is labelled what and when. Answers as to what is bought were taken from responses to question number 9 of the questionnaire. Large exchanges mainly use staple items, Navy publications, trade publications, vendor guidance, customer demand, and experience to determine what product lines to carry. The small exchanges generally use customer demand, past experience and rate of turnover to determine what to stock. Also interspersed as a stocking method among the answers received from the small exchanges was "a logical guess." Considering the general inexperience of small exchange officers and the interface that retail experience has with the buying function, it is felt that this answer can probably be applied to more than one small exchange.

When to buy merchandise is answered by responses to question number ten of the questionnaire. The majority of the large exchange replies are: (1) vendors advice, (2) unit personnel, (3) high-low inventory method, (4) economic order quantity model, and (5) rate of merchandise turnover. The small exchange replies can be summarized as: (1) prevention of stockout, (2) visual inspection, (3) when stock depleted to one month's supply, (4) let stockout occur, and (5) allow stock level to reach certain fraction of minimum order. When the methods of determining when to buy more merchandise are compared, the large exchanges rely more on standard procedures while the small exchanges rely primarily on the experience of unit personnel.

The method of merchandise pricing was given in response to question twelve. At all but three large exchanges, a variable pricing method is employed. The employment of the variable pricing scheme

indicates that management needs to review exchange records and operations to ensure planned profits are being met. In contrast, the normal merchandise markup at the small exchanges was usually a fixed rate for all merchandise. The range for this merchandise markup is from 10 to 15 percent. The fixed markup method of pricing requires less expertise to apply and less review by management. The relatively low merchandise markup indicates that the small exchanges are primarily endeavoring to sell merchandise at the lowest possible price with actual profit (money remaining after all costs are paid) being secondary. Small exchanges answers pertaining to pricing methods such as (1) as low profit as possible, (2) five percent markup, and (3) zero to five percent markup help verify that profit is a secondary concern in the operation of most small exchanges.

Information pertaining to actual merchandise costs, selling price, and percentage of total sales was solicited through question 13 of the questionnaire. As previously noted in Chapter IV, merchandise cost is a combination of many factors such as quantity ordered, discounts available, etc. Using item (a) (a Gillette Trac II, twin blade cartridge razor) shown in Table XXIX, the costs of merchandise purchased at the large exchanges was compared with the cost of the merchandise purchased at small exchanges. Comparisons between large and small exchange costs were made in each district and then aggregated so that area price differentials would not bias the results. Also, the worst case for the large exchanges is taken; that is, the highest merchandise cost of the large exchanges in a district is the cost used in comparison with the small exchanges in the district.

Using this basis of comparison and excluding data from the Eleventh Coast Guard District (no large exchange), the following results were obtained from 40 responses: (1) item "A" costs less at 11 percent of the small exchanges, (2) item "A" costs the same at 60 percent of the total exchanges, and (3) item "A" costs less at 29 percent of the large exchanges. The only conclusion that can be drawn from this is that item "A" generally costs less at approximately 2.5 times as many large exchanges as small exchanges. The same type of analysis performed on other item costs yielded similar results, i.e., cost savings occurring more times at large exchanges than small. The generalization can then be made that cost savings will occur for the satellite system by large (parent) exchanges purchasing merchandise for the satellite exchanges.

The unit selling price for item "A" is analyzed in the same manner as the unit cost. The results that are obtained from the analysis are: (1) item "A" costs more at 38 percent of the large exchanges, (2) item "A" costs the same at 40 percent of the large exchanges, and item "A" cost less at 22 percent of the large exchanges. As with the merchandise cost, similar results were obtained when other items were subjected to the same type of analysis. Based on the items sampled, the conclusion reached concerning unit selling prices is that there is a trend towards equal or lower merchandise selling prices under the satellite system. This is the same trend found in the model exchange area.

F. INTERNAL CONTROL

Primary information pertaining to internal control is given by responses to questions 11, 14, 17, 19, and 20 of the questionnaire. Secondary sources of information were provided through answers to questions pertaining to the administrative personnel of the exchange system. This information is applied to the four areas of internal control namely: (a) safeguarding of assets, (2) accuracy and reliability of accounting data, (3) promotion of operating efficiency, and (4) adherence to prescribed management policy.

Assets need to be safeguarded against loss from fraud, fire, flooding, lawsuits, etc. One method of safeguarding assets is through the use of insurance. Each exchange is responsible for providing adequate insurance coverage for: (1) fidelity bonding, (2) motor vehicles, (3) general liability, (4) employee death or disability compensation, and (5) other insurance deemed necessary by the exchange officer and approved by the commanding officer.[78] In reviewing responses to question 14, 18 small shore exchanges reported fidelity bonding as the only insurance carried and 15 small exchanges did not report having fidelity bonding insurance. The fact that this insurance was not reported does not necessarily mean that the exchanges do not have the required insurance; however, it is an indication that internal control may be weak at these small exchanges in this area. In contrast, all of the large exchanges had the required insurance.

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[78] Manual for Non-Appropriated Fund Activities, Articles A02033 and A02034.

Diversification of operations so that the same person who purchases merchandise does not pay the bill helps safeguard the assets and increases the reliability of the accounting data. The limited personnel operating the small exchanges makes diversification almost impossible. The fact that assistants were assigned to the exchange officer at only two of the small exchanges sampled was previously noted. Diversification is impossible at two of the small exchanges sampled where the exchange officer is also the operator.

Unit internal auditors check to ensure that all phases of internal control are present at the exchange. It can be noted in Table XXX that the experience and expertise of unit personnel in the area of auditing is restricted, as is the case in the model exchange area. Unit exchange audit boards varied in size from one to three members at both large and small exchanges. Forty-five small exchanges responses concerning audit board membership indicated that of 90 audit board members, only 11 had previous experience. In comparison the ten large exchanges responding to the question reported that eight of nineteen audit board members had previous experience. The large exchanges are required by regulation to have experienced auditors examine the exchange operation yearly. In contrast there is no requirement for experienced auditors to examine the exchange operation at small exchanges. Generally, the only occasion that experienced auditors examine small exchange operations is when the unit requests assistance or district NAFA personnel inspect the exchanges. Eleven small exchanges reported that the most recent audit had been performed by district personnel.

TABLE XXX

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING

Exchange Designation by size [1]	Method Used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-1	2/10 net 30	Yes	Not given	Not given	Yes (unit level)
M-1	2/10 net 30	Yes	Not given	Not given	No
M-2	2/10 net 30	No	26	Yes	No
S-1	1 week of receipt	Yes	Not given	Not given	No
S-2	End of month	No	6 2	None None	Yes (unit level)
S-3	2/10 net 30	No	1 0	None None	No
S-4	End of month	No	1 18	None None	No
S-5	End of patrol or 2-4 weeks when in port	No	3 20	None Yes	No
S-6	End of month	No	1 17	None None	No
S-7	2/10 net 30	Yes	3 1	None None	Yes (unit level)

[1] Size designation -- L - large; M - medium; S - small.

[2] Responses to question 12 of questionnaire.

[3] Responses to question 20 of questionnaire.

[4] Responses to question 19 of questionnaire.

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method Used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-2	2/10 net 30	Yes	Not given	Not given	Yes (unit level)
L-3	2/10 net 30	Yes	20 14	None None	Yes (unit level)
L-4	2/10 net 30	Yes	29	Yes	No
L-5	1 week of receipt	Yes	3	Yes	Yes (unit level)
L-6	1 week of receipt	Yes	2	No	Yes (unit level)
M-3	Upon receipt of goods	No	27 18	No Yes	No
S-8	1 week of receipt	No	6 17	No No	No
S-9	End of month	Yes	2 17	No Yes	Yes (unit level)
S-10	1 week of receipt	No	2 6	No No	No
S-11	1 week of receipt	Yes	4 16	No No	No
S-12	End of month	No	3 23	No No	No

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-7	End of month	Yes	5 17	No	Yes (unit level)
L-8	2/10 net 30	Yes	6 15	None None	No
S-13	1 week	No	1 0	None None	No
S-14	2/10 net 30	No	1 1	None None	Yes (unit level)
S-15	1 week	No	12 4	None None	Yes (unit level)
S-16	End of month	No	0 0	None None	No
S-17	1 week of receipt (from another exchange)	No	1 0	None None	No
S-18	1 week of receipt) (from another exchange	No	2	None	No
S-19	1 week	Yes District Personnel	2	None	No
S-20	1 week	Yes District Personnel			No
S-21	End of month	No	2 10	None None	Yes (unit level)
S-22	2/10 net 30	No	10 24		
S-23	End of month	No	18 20	None None	No

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-9	1 week	Yes District Personnel	22	Yes	Yes (unit level)
L-10	2/10 net 30	Yes District Personnel			Yes (unit level)
L-11	2/10 net 30	Yes	6 19	No Yes	Yes (unit level)
M-4	1 week	No	2 19	No Yes	No
S-24	1 week	No	2 19	No No	No
S-25	1 week	Yes District Personnel			No
S-26	End of month	No	3 1	No No	Yes (unit level)
S-27	2/10 net 14	No	3 3	No No	Yes (unit level)

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-12	2/10 net 30	Yes			Yes (unit level)
L-13	2/10 net 30	Yes			Yes (unit level)
M-5	2/10 net 30	No	3 2	No No	No
S-28	1 week	No	1 4	No No	Yes (unit level)
S-29	End of month	Yes			No
S-30	End of month	No	1 6	No No	No
S-31	End of month	No	5 1	No No	Yes (unit level)
S-32	End of month	No	1	No	Yes (unit level)
S-33	1 week	No	3 5	No No	No
S-34	1 week	No	17 12	Yes No	Yes (unit level)
S-35	1 week	Yes District Personnel			No
S-36	End of month	No	6	None	No
S-37	1 week	Yes District Personnel			No
S-38	2/10 net 30	Yes District Personnel			No
S-39	2/10 net 30	Yes District Personnel	1 1	None None	Yes (unit level)

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method Used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-14	Maximum use of credit	Yes	5 20 1	No Yes No	Yes (unit level)
L-15	2/10 net 30	Yes	7 3	No No	Yes (unit level)
M-6	1 week	No	26 2	Yes No	Yes (unit level)
M-7	1 week	No	3 16	No No	No
S-40	During month	No	12 13	No No	No
S-41	1 week	No	6 1	No No	No
S-42	End of patrol	Yes District Personnel			No
S-43	1 week	No	18	No	No
S-44	End of patrol	No	20 1	Yes No	No
S-45	1 week	No	8 2 5	No No Yes	No

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method Used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
L-16	2/10 net 30	Yes			Yes (unit level)
L-17	As per terms	Yes	14 11	No Yes	Yes (unit level)
M-10	2/10 net 30	No	15 5	Yes No	No
S-50	1 week	No	2 1	No No	No
S-51	Pay discounts first then as money comes free	No	3 1 17	No No Yes	No
S-52	End of month	No	1 14	No Yes	No

SELECTED INFORMATION PERTAINING TO INTERNAL CONTROL FOR COAST GUARD EXCHANGES OUTSIDE MODEL EXCHANGE AREA BY DISTRICT GROUPING CON'T

Exchange Designation by size [1]	Method Used to Pay Bill [2]	Outside Auditors Used/Required [3]	Unit Years Military Service	Auditors Financial Experience	Additional Regulations Prescribed [4]
M-8	2/10 net 30	No	2 15	No Yes	Yes (unit level)
M-9	2/10 net 30	No	10 20	Yes No	Yes (unit level)
S-46	1 week	No	22 18	No No	No
S-47	Take discounts rest as funds available	No	1 17	No Yes	Yes (unit level)
S-48	2/10 net 30	No	2 1	No No	No
S-49	Take discounts Pay others ASAP when able to	No	10 23	No Yes	Yes (unit level)

At all but two large exchanges, experienced personnel maintain accounting data, files, and records. The fact that experienced personnel are performing these functions generally increases the accuracy and helps to insure reliability of the data. This also removes the exchange officer far enough from the generation of the data to allow for objectivity in interpretation and use of it. This can be contrasted with the small exchanges where only two exchange officers have assistants and only 25 percent have previous financial experience. As the exchange officers at the small exchanges generally generate the data used for reports, complete the reports, and make management decisions, objectivity in utilizing and interpreting the data is lost. An indication of the view these exchange officers hold towards records and accounting data is noted in the response to question 18 of the questionnaire. Although only 10 exchange officers at small exchanges felt that more guidelines were needed to efficiently operate an exchange, nine of these responses dealt with bookkeeping and record keeping problems.

Utilizing trade credit in a proper manner is a way of promoting operating efficiency. "Normal credit terms offered by many suppliers leave purchaser the option of earning a discount by paying within a certain period or of having longer credit without the discount. Very common, for example, are terms of 2/10 net 30 -- that is, the buyer can deduct a 2 percent from payments made within 10 days, or he can take 30 days to pay without discount. Using the full 30 days is quite permissable under such terms but the buyer pays a high price for the extra 20 days of credit. By taking the extra 20 days on

a $1,000 purchase under such terms, the purchaser gets the use of $980 for an extra 20 days at the cost of the $20 discount forgone. In effect, the purchaser is paying 2.04 percent (20 ÷ 980) for the use of the $20 for 20 days or one-eighteenth of a year. In terms of annual interest, the cost of continued loss of the discount is almost 37 percent (2.04 percent times 18)."[79] The other side of the coin is paying creditors before the end of stated credit terms. When this is done, money that could be more effectively used for things such as earning interest or paying bills with trade discounts is needlessly tied up.

The utilization of trade credit is shown in the responses received to question 12 of the questionnaire (method of paying bills). Responses from large exchanges indicated that: (1) 13 exchanges use trade credit efficiently, i.e., take advantage of discounts and pay bills within stated terms, (2) three exchanges pay all bills within 10 days of receipt (take discount only), and one exchange does not pay bills until the end of the month (takes no discounts). In contrast, small exchange responses indicated that: (1) seven exchanges use trade credit efficiently, (2) 26 exchanges take discounts only and (3) 19 exchanges take no discounts. In other words, approximately 25 percent of the large and 85 percent of the small exchanges are not utilizing trade credit effectively. The satellite concept can improve effective use of trade credit.

Overall, internal control can be improved by the satellite exchange concept at exchanges outside of the model exchange area.

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[79] Hunt, P., Williams, C.M., and Donaldson, G. Basic Business Finance, p. 204, Irwin, 1971.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

This study showed that centralized management in the form of satellite exchange operations appears beneficial to the Coast Guard exchange system. This conclusion emerged from the study, conducted in two stages, of satellite concept application to the current decentralized exchange operations. The first stage, illustrated in Chapters III and IV, included a detailed examination of operation in the model area, a description of the satellite exchange concept, and its application to the model exchange area. Data was obtained through personal interviews, review of records and reports and questionnaire surveys. Application of satellite concepts to the model area were found to be beneficial through (1) cost savings (2) personnel time savings, and (3) improved internal control. The second stage, noted in Chapter V, addressed the operation of other exchanges in the continental United States. Data for these exchanges was obtained through the use of a queationnaire survey. The effects of satellite concepts and similarities to model exchange benefits were demonstrated to project the benefits of the satellite concepts to the entire exchange system.

Personnel involved in administering the operation of model area exchanges are the exchange officer and assistants to the exchange officer. The exchange officer is a vital link in the operation with duties that include purchasing, merchandising, record keeping, and reporting. Assistants to the exchange officers are found to be directly proportional to sales volume while the financial experience of the exchange officer is found to be directly proportional to the

sales volume, i.e., none of the exchange officers have assistants or financial experience at the small exchanges, with the opposite occuring at the large exchanges. As a result of this phenomenon, inexperienced personnel at small exchanges are generating data and maintaining accounting records while making management decisions based upon the very same records. Internal control becomes a problem when one person maintains records as well as handling cash collections and disbursements. Requirements for exchange audits by other unit personnel (unit exchange audit board) are designed to strengthen internal control; however, the lack of experience of personnel performing the audit, especially at small units, tends to negate increased control.

Broad policy guidelines, as published by the Resales Program Branch of the Office of the Comptroller of the Coast Guard, relating to personnel, service, and standards of operation are narrow in scope and straightforward in nature. These policies were found to be consistently applied at all of the exchanges visited and were assumed to be consistently applied at all exchanges due to their scope and nature. Merchandise pricing and buying policies are very general and specifics such as:

1. what to stock,
2. when to restock
3. inventory control
4. price reductions
5. price marking methods
6. selection of sources of supply

7. speculative buying, and

8. buying technique are omitted.

Application of these broad policies vary from exchange to exchange in the model area depending upon the knowledge and interest of exchange personnel. This application and interpretation of policy presents few problems to exchanges with trained personnel; however, problems at exchanges without trained personnel have caused operating losses to occur. In addition, these policies do not differentiate between shore based and floating exchanges.

The satellite exchange policy has directed all exchanges afloat and other exchanges with less than $50,000 yearly sales volume located in the same geographic area (50 miles) as a large exchange to become satellite exchanges. This first step towards centralized management was taken to enable the small exchanges to benefit from large exchange expertise and techniques. Implementation of the satellite exchange system in the model area will be an improvement over the current system. Benefits such as merchandise cost savings, personnel man-hour savings, improved internal control, and the capability to provide training to exchange officers and operators contribute to this improvement. Although the personnel man-hour savings benefit satellite exchanges and the district office and the merchandise cost savings can increase exchange profits, the most important aspect of the satellite system is improved internal control for the satellite exchanges.

Specific operating policies and guidelines will be established in the contract for the satellite exchanges. The parent exchange in the model area has personnel qualified to instruct the satellite

exchange operators and exchange officers in the performance of their duties. Through increased knowledge of "how" and "why" the system operates, these personnel will be able to operate a more efficient exchange. In addition, the parent exchange can monitor the satellite exchanges on a more regular (monthly versus quarterly) basis to ensure that exchanges are operating according to current guidelines. Asset integrity would be more closely controlled as a result of this monitoring by knowledgeable personnel as well as through an annual audit by qualified auditors.

The disadvantages of satellite exchange operation are (1) possible untrained or unwilling exchange operators with a possible rapid turnover rate, (2) the method used for merchandise transportation, (3) omission of units from the satellite system that need to be included, and (4) additional costs to the parent exchange. These disadvantages are over shadowed by the following:

1. The satellite system has the capability of providing training for the untrained exchange operators, in their area,

2. The units omitted from the satellite operation maintain the "status quo" at such units, and

3. The additional costs to the parent exchange are less than benefits received.

The only disadvantage that is not overshadowed by benefits or does not change the "status quo" is the method used for merchandise transportation. Since government transportation is utilized for exchange merchandise, it is felt that plans and priorities can be devised to schedule needed shipments and the problem will not be material.

The final chapter of the study examines the applicability of the satellite exchange concept to exchanges outside the model area in the continental United States. Operating procedures at exchanges outside the model area are investigated and compared with model area exchange procedures to show that satellite exchange concepts can also be applied to exchanges outside the model area. It was shown that only 41 percent of all small exchanges in the continental United States are eligible to be satellite exchanges. Notable differences in operating procedure at exchanges outside the model area included:

1. 25 percent of small exchange officers had previous financial experience,
2. two large exchanges had inexperienced exchange officers and no administrative assistants,
3. the exchange officer was the operator at two exchanges,
4. the commanding officer was the exchange officer at several exchanges,
5. questionnaire responses suggested improper insurance coverage at 18 small shore exchanges, and
6. questionnaire responses indicated that no fidelity bonding insurance was carried at 15 small exchanges.

These exceptions bring to light additional details that need to be considered in satellite exchange operations.

B. CONCLUSIONS

The satellite exchange concept, as a method of centralized management, can be beneficial to 41 percent of the small exchanges in the Coast Guard system due to the following improvements:

1. Internal control can be improved at the small exchanges through better auditing, periodical monitoring by the parent exchange, and the availability of experienced parent exchange personnel for consultation.

2. Exchange operating costs at the small units can be reduced through personnel and merchandise cost savings.

3. The number of man-hours required to operate the satellite exchanges can be reduced through the elimination of unit audit requirements. This makes available additional man-hours for use in other areas.

4. An exchange training capability can be created at the parent exchange to train satellite exchange personnel.

5. Policy at satellite exchanges in buying, pricing, and merchandising can be specified in the contract to eliminate operational costs incurred through improper interpretation of these broad policies.

6. Accounting records and reports can be simplified at satellite exchanges, i.e., the number of existing files required to be maintained can be reduced from 15 to 5 and only one monthly report is required as opposed to four separate reports presently required on a quarterly basis.

7. A profit can be guaranteed to the satellite exchange.

C. RECOMMENDATIONS

Although the satellite exchange concept can be beneficial to small exchanges in the Coast Guard exchange system, under conditions specified in this study, it is beneficial to only 41 percent of them. In addition, operating conditions exist at two large exchanges and numerous medium exchanges that need closer management supervision. Future cost savings will be needed at all exchanges in order to balance the increasing costs associated with personnel and merchandise. In order for Coast Guard exchanges to remain competitive and meet mission objectives, further study is needed in the following areas:

1. A study needs to be made of ways to specify exchange operating policy. A review of the policies and procedures of other Armed Services to determine applicability to Coast Guard operation would be a method of accomplishing this.

2. The training needs for both exchange officers and operators should be investigated. Included in such a study should be the feasibility of the increased use of subsistence specialist personnel in exchange operations.

3. A study of the feasibility of centralizing exchange accounting and bookkeeping functions at an area level needs to be made.

4. The feasibility of further centralization through the concept of regional NAFA centers needs to be studied.

APPENDIX A

EXCHANGE OFFICER QUESTIONNAIRE

A copy of the questionnaire used to obtain data from Coast Guard exchanges is included to enable the reader to have a better understanding of the areas of concern sampled. One hundred and twelve questionnaires were mailed to exchanges within the continental United States and the questionnaire verbally administered to eight exchanges in the model exchange area, with the objective being to attain a response from the entire population. A cover letter identifying the author and the purpose of the study was attached to each questionnaire. Identification of the exchange was not required as it was felt that some of the answers may have been biased by the requirement to identify the exchange.

QUESTIONNAIRE CONCERNING COAST GUARD EXCHANGE OPERATION TO BE COMPLETED

BY THE EXCHANGE OFFICER

Detailed research is not intended. Use best estimates where actual data is not readily available.

1. Indicate your rank and number of years of military service.

2. Indicate by checking the proper blank whether the job of exchange officer is

Primary duty _____
Collateral duty _____

3. List your previous experience in the operation of exchanges and/or any previous experience or education in the area of finance.

4. Indicate the length of time in your present assignment as exchange officer.

5. Indicate the number of assistants assigned or hired for exchange administration. Do not include sales personnel in this category. Examples of personn involved in exchange administration would include merchandise manager, store manager, bookkeeper, secretary, etc.

Civilian _____ Full time _____ Part time_____
Military _____ Full time _____ Part time_____

6. For those persons enumerated in question 5, indicate length of service in present assignment and previous experience in a similar job.

Job description	Length of service in present job	Length of service in similar job	Civilian	Militar

7. Indicate number of personnel, not named in question 5, employed to operate exchange activities. Examples of personnel to be listed would include sales personnel, stockroom personnel, warehousemen, etc.

Civilian _____ Full time _____ Part time _____
Military _____ Full time _____ Part time _____

8. Attach monthly wage schedules for employees indicated in questions number 5 and number 7.

9. Briefly describe method(s) used to determine what different product lines and how much of each product line will be held as inventory.

10. Do you use a formal rule or a "rule of thumb" to determine how depleted a product line inventory is allowed to become before placing an order to replenish the inventory?

Rule of thumb _____
Formal rule _____

Briefly describe your method.

11. How do you pay your bills?

Pay all bills within 1 week of receipt _____
Pay all bills at the end of the month _____
Pay bills with purchase terms such as 2/10, net 30 within 10 days and the remainder by the end of the month _____
Some other method _____

If "some other method" were checked, briefly describe your method.

12. Describe guidelines, other than those found in the Manual for Non-Appropriated Fund Activities (CG 146), you use in determining how much markup to assign to a product.

13. List unit cost and unit selling price for the following items:

Item	Unit Cost	Unit Selling Price
a. Gillette Trac II, twin blade cartridge razor		
b. Zippo Lighter		
c. Rapid Shave, 11 oz. can		
d. Old Spice Aftershave (red), 4-3/4 oz.		
e. Dial soap, bar 3-1/2 oz.		
f. Right Guard deodorant, 4 oz. can (bronze)		
g. Listerine mouthwash, 7 fl. oz. bottle		
h. Zippo lighter fluid, 5 fl. oz. can		
i. Colgate toothpaste, medium tube, 3 oz.		
j. Kiwi boot polish, black, 1-1/8 oz. tin		

Indicate dollar amount and percentage of monthly sales of the following:

	Avg. Monthly dollar amount	% of monthly sa
toiletry items		
tobacco accessories		

14. List yearly costs, name of insuring company, position bonded, and amount of bonding insurance for each position bonded:

Company	Yearly costs	Position Bonded	Amount of Bonding Insurance

List yearly costs for:

All other insurance _____
Outside auditors _____
Employees retirement program _____

15. Indicate FY 1973 exchange sales by checking the proper blank:

Less than $50,000 _____
Greater than or equal to $50,000 but less than $150,000 _____
Greater than $150,000 _____

16. Indicate whether the FY 1973 unit exchange sales differed from the FY 1972 unit exchange sales by 10% or more by checking the appropriate blank:

Yes _____
No _____

If "yes" were checked, briefly explain why.

17. Are additional financial reports prepared besides those required by the Manual for Non-Appropriated Fund Activities (CG 146)?

Yes _____
No _____

If "yes" were checked, return 1 blank copy of each report with this questionnaire.

If "yes" were checked, indicate the number prepared for:

Higher authority _____
Internal use _____

18. Do you think the instructions in the Manual for Non-Appropriated Fund Activities (CG 146) provide enough guidelines to efficiently operate an exchange?

Yes _____
No _____

If "no" were checked, briefly comment on areas that need clarification.

19. Have additional exchange regulations been prepared besides those found in the Manual for Non-Appropriated Fund Activities (CG 146)?

Yes _____
No _____

If "yes" were checked, indicate the number of regulations promulgated by:

Higher authority _____
Unit _____

If "unit regulations" were promulgated, return a copy of each unit regulation with this questionnaire.

20. Was the last exchange audit performed by the unit exchange audit board?

Yes _____
No _____

If "yes" was checked, list audit board members by rank and years of military service. Also, indicate audit board members' previous experience in finance or exchange operations.

Rank	Years of Military Service	Previous Experience

21. Estimate the number of hours per week spent talking with outside product salesmen.

Exchange officer _____
Other exchange personnel _____

22. Estimate the number of hours per week spent with the commanding officer discussing exchange matters.

Exchange Officer _____
Other exchange personnel _____

23. Estimate the number of hours per week spent working on exchange matters in addition to those listed in questions 21 and 22.

Exchange Officer _____
Other military exchange personnel _____

24. Indicate whether or not a non-Coast Guard exchange is located within a 20 mile radius of your exchange:

Yes _____
No _____

If "yes" was checked, estimate the distance. _____

If "yes" was checked, is it larger or smaller than your exchange?

Larger _____
Smaller _____

25. Indicate whether your unit is:

Floating unit _____
Shore unit _____

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